VOL. LXXXVI PART ELEVEN

JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY

NOVEMBER 1961

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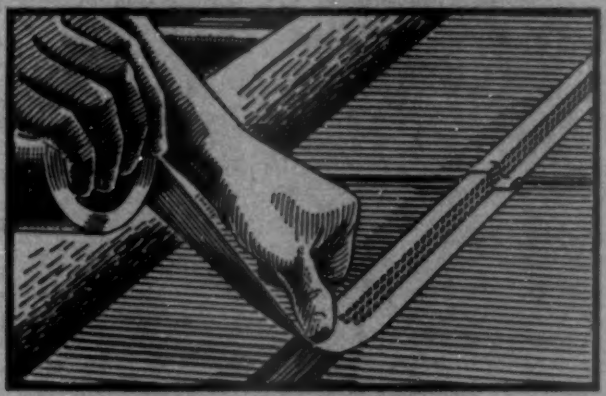

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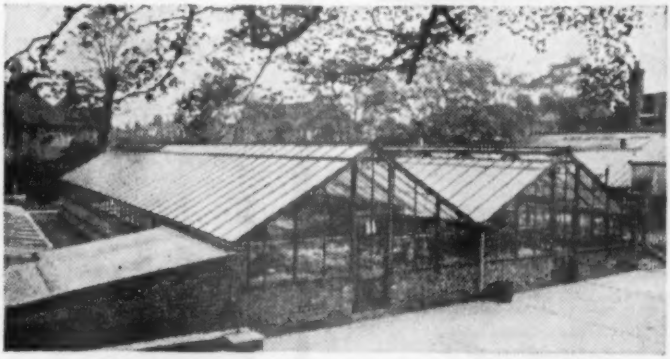

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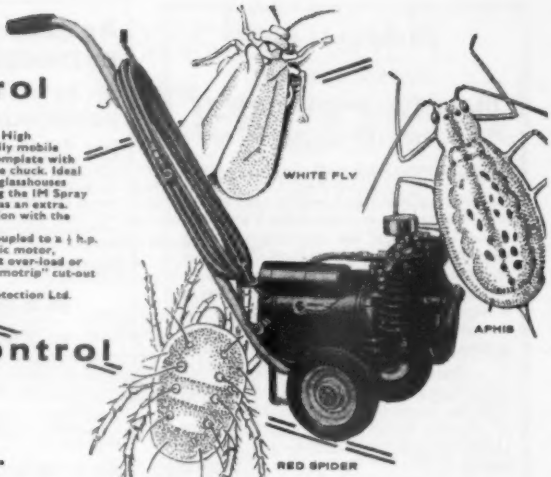

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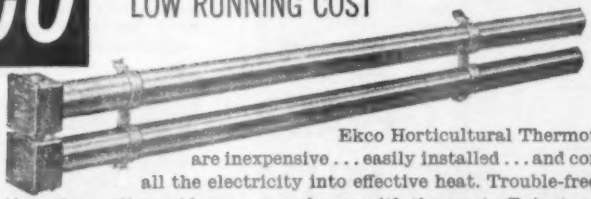

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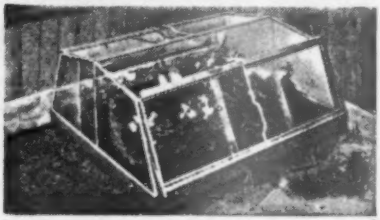

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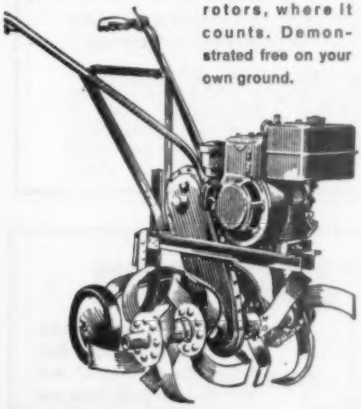

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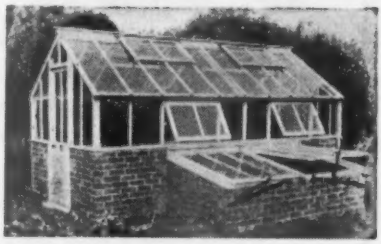

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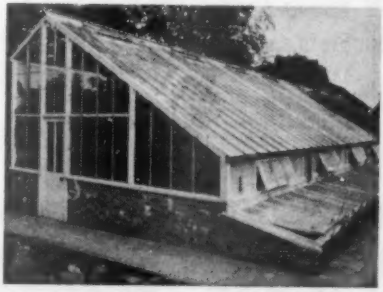

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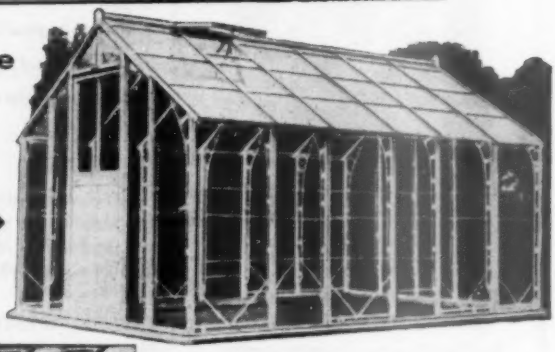

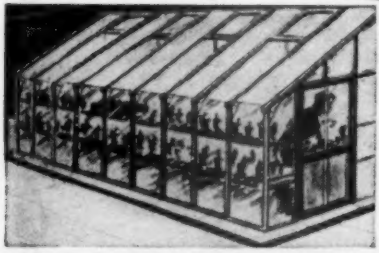

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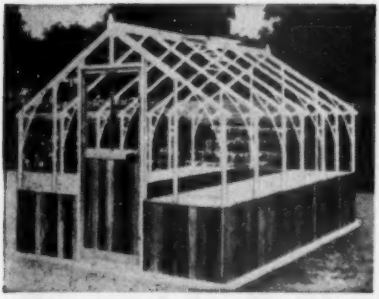

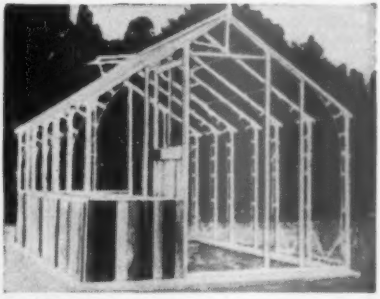

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JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY

VOL. LXXXVI PART ELEVEN

NOVEMBER 1961

THE SECRETARY'S PAGE

THE PRESIDENT

The Council, acting under the Bye-laws of the Society, have elected Lord Aberconway as President *ad interim* until the next Annual General Meeting in succession to the late Hon. Sir David Bowes Lyon, K.C.V.O., V.M.H. Amongst his many interests in horticulture Lord Aberconway has developed further the famous gardens at Bodnant, renowned, amongst other plants, for its rhododendrons, magnolias and camellias, in which three genera he has taken a particular interest, staging numerous exhibits at the Rhododendron Show and for the Camellia competition. Lord Aberconway became a member of the Council in 1955.

ANNOUNCEMENTS—NOVEMBER AND DECEMBER

Shows

FRIDAY, November 3 1 P.M. to 7.30 P.M. SATURDAY, November 4 10 A.M. to 6 P.M.	National Chrysanthemum Society's Show, in the New Hall.
TUESDAY, November 7 12 NOON to 6 P.M. WEDNESDAY, November 8 10 A.M. to 5 P.M.	Fortnightly Flower Show, in the Old Hall.

Shows—*continued.*

TUESDAY, November 28 12 NOON to 6 P.M. WEDNESDAY, November 29 10 A.M. to 5 P.M.	Fortnightly Flower Show and Late Apple and Pear Competition, in the New Hall.

Lectures

TUESDAY, November 28, at 3 P.M. Masters Memorial Lecture. "Herbicides; their nature, mode of action and use", Part II, by DR. E. K. WOODFORD, O.B.E., M.SC., D.I.C.

Competition—The Late Apple and Pear Competition will be held in conjunction with the Fortnightly Show on November 28 and 29. Schedules may be obtained from the Secretary.

Lecture of Special Interest to Young Gardeners—A lecture, primarily for young persons up to the age of 18, will be given in the Lecture Room of The Society's New Hall in Greycoat Street, Westminster, at 3 P.M. on Friday, December 29, by MR. O. POLUNIN, on "Plant Hunting in the Himalaya and Middle East". It will be illustrated by a film.

There will be no charge for admission but, as accommodation is limited, those wishing to attend should obtain tickets. While children may be accompanied by adults, parents and guardians are asked to keep in mind the fact that the lecture is intended primarily for young persons of school age. Applications for tickets should be sent to the Lecture Secretary, The Royal Horticultural Society, Vincent Square, London, S.W.1. Applications will be dealt with in order of receipt.

Joint Chrysanthemum Committee Meetings on November 14 and December 12—The Joint Chrysanthemum Committee will meet on Tuesday, November 14, to consider novelties. Exhibits, together with completed forms, should be handed to the Secretary of the Committee by 11.30 A.M. The Committee will also meet on Tuesday, December 12.

Demonstration at Wisley—On Wednesday, November 15, there will be a demonstration at Wisley on the Pruning of Fruit Trees, beginning at 11 A.M. The demonstration will be repeated at the same time on Thursday, November 16.

Distribution of Surplus Seeds—The annual distribution of surplus seeds from the Society's Gardens at Wisley to Fellows will take place during the first few weeks of 1962. A List of the seeds available, together with a Form of Application, is being sent with this JOURNAL only to Fellows resident overseas.

No copies will be sent to Fellows resident in the British Isles except on request. **Fellows resident in the British Isles** (including the

Channel Islands and Eire) **who wish to participate in the distribution should apply immediately for the List and Form** to The Director (Seed Applications), The Royal Horticultural Society's Gardens, Wisley, Ripley, Woking, Surrey, and enclose a stamped, addressed envelope. **The completed Form must be returned so as to reach Wisley by the last day in December.**

Examination for the National Certificate in Horticulture, 1961—This Examination includes both written and practical tests, and was held at thirteen County Horticultural Institutes. In all there were two hundred and nineteen candidates in the various Sections of the Examination, of whom thirty-five obtained a "Pass with Credit" and one hundred and sixty-five a "Pass".

The Society's Examinations in 1962—Candidates wishing to enter for the Society's Examinations in Horticulture to be held in 1962 are reminded that the closing dates for the receipt of entry forms are as follows: General Examination in Horticulture—Monday, January 8, 1962; National Diploma in Horticulture, Intermediate and Final Examinations, and N.D.H. Honours—Thursday, February 1, 1962; Teacher's Diploma in School Gardening, Intermediate and Final Examinations—Thursday, February 1, 1962.

NOTES FROM WISLEY

C. D. Brickell, B.Sc.

FEW outdoor plants are to be seen flowering during the present month in the Gardens although many trees and shrubs will still be bearing their ornamental fruits and brightly coloured foliage.

One genus which provides a wide range of shrubs for garden decoration is *Cotoneaster* and many plants of the various species are to be seen at Wisley. In front of the Laboratory are some fine specimens of the well-known "Fishbone Cotoneaster", *C. horizontalis* which can either be used to clothe a wall or for ground cover as the name might suggest. At this season it is most attractive with the bronzed, autumnal leaves and numerous bright red berries; the pinkish-white, slightly cupped flowers are produced during May and are much frequented by bees. The semi-deciduous *C. simonsii* is another popular shrub often used as a hedging plant and at Wisley a hedge has been planted recently on the north side of the newly designed Model Vegetable Garden on Weather Hill. Left to itself it forms a rather stiff, upright shrub some 10 feet high with large, orange-scarlet berries which usually remain on the plant for much of the winter. Also in use as a hedging plant around the Model Vegetable Garden is the evergreen *C. lacteus* which makes an excellent screen provided the whippy growths are pruned severely while the plants are young. As a specimen plant *C. lacteus* is in the first rank, forming a rounded, compact, rather dense bush about 10 feet tall and

usually 12 or 15 feet through. It is rather late in ripening the clusters of small, deep red berries which often do not colour fully until December, but they are produced very freely on the plants growing in Seven Acres and make a fine display at this time of year.

C. × *watereri*, of which several plants are to be seen in Seven Acres, is considered to be a hybrid between *C. henryanus* and *C. frigidus*, and is also very free berrying, with great clusters of bright scarlet fruit weighing down the branches. If trained in the early stages on a single stem this hybrid will form a small tree about 15 or 20 feet tall but is usually seen as a rather upright bush. Many similar hybrids are now offered by nurserymen and 'Cornubia' is undoubtedly one of the finest, even more vigorous than *C.* × *watereri*, and with a wide, spreading habit and large, rich green, ovate-lanceolate leaves. For the smaller garden *C. conspicuus* var. *decorus* from Western China is a very fine berrying shrub with a rather prostrate habit which for some reason, here at Wisley at least, seems less attractive in fruit to the birds than many of the other species. Quite often some of the berries of the previous season still remain on the plant when the new crop of flowers appears during May. Also free berrying, but more rapid and vigorous in growth is *C. franchetii sternianus*, a shrub of graceful habit originally raised from seeds collected by FARRER in Upper Burma. This variety has evergreen or semi-evergreen, ovate-elliptic leaves about an inch long, dark, glossy-green above and densely, silvery-white below. The small, pinkish cymes of flowers are followed by numerous orange-red, persistent fruit, carried along the long, rather flexuous branches and making a fine display during the autumn and early winter.

Closely related to *Cotoneaster* are the "Firethorns", species of *Pyracantha* which are frequently used as wall plants where their evergreen foliage and brightly coloured berries provide a considerable display during the winter months. They are however perfectly hardy and make fine plants for the open border. *P. angustifolia*, in fact, seems to resent severe restriction on a wall and the specimens in the open at Wisley practically always bear a larger crop of the brilliant, orange berries than those trained against the Laboratory walls. The original sendings of this species from Western China were not completely hardy in this country, but plants grown from seed sent home by FORREST were of a hardier form. It is certainly a very valuable garden plant as the berries are retained until February or March, if spared by the birds. The red-berried *P. coccinea* and its variety 'Lalandii' with orange-red fruits are probably the most frequently planted "Firethorns", the former having been in cultivation since 1629. Both are usually found as wall shrubs, but provided they are placed in their permanent quarters when young, as they resent transplanting, there is no reason why they should not be used in the shrub border. Unfortunately, blackbirds are extremely fond of the fruits and at Wisley appear to strip the plants of *P. coccinea* before moving on to further destruction amongst plants of the other species. *P. rogersiana*, one of the many excellent garden plants

introduced by GEORGE FORREST, is the least vigorous of the species and so more suitable for the small garden. Sometimes considered a variety of *P. crenulata* from the Himalaya, it has given rise in cultivation to a number of forms with fruits varying in colour from golden-yellow to reddish-orange. A plant of *P. rogersiana* 'Flava' with golden-yellow berries can be seen trained against the north wall of the Laboratory and other forms, including 'Aurantiaca', with its reddish-orange fruits, are to be seen in Seven Acres and elsewhere in the Gardens.

Many trees and shrubs are also valuable for their variously coloured barks and on a sunny day in November, when most of the autumn leaf tints which brightened the Gardens earlier have faded, it is pleasant to see the occasional splashes of colour which they present.

Many Maples can be used very effectively in certain positions where the bark can be shown to advantage and none more so than the "Snake-bark Maples". This name is usually applied to *Acer pennsylvanicum*, a small tree from eastern N. America, chiefly remarkable for the handsome, silver striping of the young branches and main trunk; the variety *erythrocladum* is also most attractive with its light crimson shoots, and both are notable for the bright yellow colouring of the autumnal foliage.

From N.E. Asia several other Maples with similarly marked bark have been introduced into cultivation during the last century. *A. davidi*, from Central China, is a very distinct species in this group, with large, handsome ovate leaves which turn yellow and crimson in the autumn, and beautifully striated bark. Both species can be seen on Battleston Hill where there are also plants of the Japanese *A. rufinerve*, a tree closely related to *A. pennsylvanicum* but with glaucous, bluish-white young shoots, and its variety *albo-limbatum* in which the leaf margins, and occasionally the whole leaf, are covered with small white dots. The "Paperbark Maple", *A. griseum* from China, is also an excellent plant for the smaller garden and is especially noticeable during winter when the cinnamon-brown bark peels away to reveal the orange-brown younger bark underneath; a good plant of this species is to be seen in the Award of Garden Merit where it is underplanted with *Erica carnea* 'Springwood' making a very pleasing combination. Similar brown, peeling barks are to be seen on *Prunus serrula* and *P. maackii* which, although of little merit in flower, are very ornamental when seen with the sun shining through the branches on a bright winter's day. The former, often sold under the name *P. serrula tibetica*, was introduced from Western China by WILSON in 1908 and has a deep brown, polished and shining bark whereas that of *P. maackii*, a native of Manchuria and Korea, is a bright yellowish-brown. A plant of this latter species is to be seen on Weather Hill whilst specimens of *P. serrula* are growing well amongst the rhododendrons on Battleston Hill. The pond near the far end of the Award of Garden Merit Collection provides a fine setting for a number of species and varieties of *Cornus* with pleasantly coloured stems. If pruned back to within an inch or so of their bases in spring, just before the buds begin to break, a plentiful supply of wand-like

stems will be produced to provide colour during the following winter. Some of the species of willow and dogwood succeed admirably with this treatment and can be kept to a moderate size if so required.

Cornus alba, with coral-red bark, and *C. stolonifera* var. *flaviramea* with bright yellowish-green shoots, are two dogwoods which contrast well when planted together, and a third plant which associates well with them is a variety of our native dogwood, *C. sanguinea* var. *atrosanguinea*, with brilliant red stems.

By the Seven Acres lake are several willows which are notable for their winter bark colouring. *Salix daphnoides*, a widespread species native to Europe, Siberia and the Himalayas, is now naturalized in this country in a few places and if grown by the "stooling" method recommended for the dogwoods produces long shoots covered with a beautiful purple waxy bloom. Another species which can be treated in this method is *S. alba chermesina*, often grown as *S. vitellina britzensis*, but the shoots in this case are a brilliant red. If allowed to develop naturally these willows will develop into large trees and a fine specimen of *S. alba tristis* (*S. vitellina pendula*) can be seen growing on the bank of the lake nearest to the Pinetum. It is a tree of weeping habit, the lowermost branches reaching the water, and after the leaves have fallen the golden-yellow, young shoots are very colourful.

In the range of greenhouses many flowering and foliage plants should be of interest to Fellows. The temperate house contains several large plants of varieties of *Camellia japonica* which will produce their flowers considerably earlier under glass than when grown outdoors. Towards the end of the month 'White Swan' with masses of single, pure white flowers, 'Adolphe Audusson' with enormous, semi-double crimson flowers, flecked with white, and 'Magnoliaeflora' with smaller, semi-double pink flowers, should be coming into bloom. *Camellia sasanqua* 'Narumi-Gata' is another variety growing here which is much admired, not only for the numerous, cupped, pinkish-white flowers but for their very strong scent as well.

One of the more striking plants which flowers over a long period is *Tibouchina semidecandra*, a Brazilian shrub with royal purple flowers four or five inches across and bright green velvety leaves. *Clematis cirrhosa* with pendent, creamy white bells, and a number of *Nerine* hybrids should be flowering in the half-hardy house and some flowers are still usually to be found on *Calceolaria pavonii*, a scandent species with yellow flowers from Peru and Bolivia, and *Cuphea micropetala* with its curious, tubular, yellowish blooms.

Other plants worth noting are *Tulbaghia pulchella*, a bulbous plant with clusters of mauve flowers, *Fuchsia microphylla* with its dainty, small red blooms, and *Cyrtanthus mackenii* with umbels of pendent, tubular cream coloured flowers.

Outside, a number of winter flowering shrubs like *Viburnum fragrans* and its hybrid with *V. grandiflorum*, *V.* × *bodnantense*, will be showing their first clusters of sweetly-scented, pinkish-white flowers. *Prunus*

subhirtella autumnalis can usually be relied upon to open a few of its dainty pink flowers in mild spells and the first pale lavender flowers of the beautiful *Iris unguicularis* (*I. stylosa*), from Algeria, may be opening towards the end of the month from the plants growing by the Laboratory walls.

INVITED TRIALS, 1962–1963

The Royal Horticultural Society will carry out at its Gardens during 1962–1963 the following trials, for which entries are now invited:

FLOWERS

From Seed

Sufficient seed is required to raise 80 plants of each stock sent for for trial.

Antirrhinum, intermediate varieties, including rust-resistant varieties.

Aquilegia.

Delphinium, *elatum* varieties only.

From Plants

Penstemon, named varieties only, twelve plants of each variety.

Scabiosa caucasica, twelve plants of each variety.

VEGETABLES

From Seed

Carrot, main crop varieties (1 ounce of seed of each variety).

Onion, varieties suitable for sowing in the autumn, excluding 'Rocca' and 'Tripoli' varieties (1 ounce of seed of each variety).

Parsnip (1 ounce of seed of each variety).

Savoy Cabbage, excluding early types ('Best of All') (½ ounce of seed of each variety).

Spinach, varieties suitable for spring sowing (1 ounce of seed of each variety).

Spinach, varieties suitable for late summer sowing and maturing before the winter (1 ounce of seed of each variety).

Vegetable Marrow, bush and trailing varieties (100 seeds of each variety).

Under Dutch lights and frames

From Seed

Summer Cabbage, first early round-headed varieties maturing not later than 'Golden Acre', to be sown under frames at the end of January and transplanted into the open ground (1 ounce of seed of each variety).

Vegetable Marrow, bush varieties, suitable for early frame cultivation (100 seeds of each variety).

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Vegetable Marrow, bush varieties, suitable for early frame cultivation (100 seeds of each variety).

Calendar of Invited Trials

1962	1963	1964
	Flowers	
Antirrhinum, intermediate varieties, including rust-resistant varieties	Ageratum	Alyssum, annual
Penstemon, from plants	Aquilegia	Convolvulus, annual dwarf varieties only
	Begonia, semperflorens type	Erigeron, from plants
	Delphinium, *elatum* varieties only	Eschscholzia
	Heliotrope, from plants	*Primula obconica*
	Limonium (*Statice sinuata*)	Tagetes, excluding *T. signata*
	Lobelia, from plants	Viscaria
	Phlox drummondii	
	Scabiosa caucasica, from plants	
	Vegetables	
Carrot, main crop varieties	Beet, round varieties only	Beet, long varieties only
Parsnip	Cabbage, red varieties only	Brussels Sprouts
Savoy Cabbage, excluding early types ('Best of All')	Corn Salad	Cos Lettuce, summer varieties only
Spinach, varieties suitable for spring growing	Endive	Early Pea, not exceeding 2½ feet high and maturing not later than 'Onward'
Spinach, varieties suitable for late summer sowing	Onion, autumn sown 1962	Runner Bean
Vegetable Marrow, bush and trailing	Radish, sown in the open	Turnip, excluding 'Milan' and long types
Under Dutch lights and frames		
Summer Cabbage, sown end of January for transplanting in open		
Vegetable Marrow, bush		

NOTE: The years refer to those in which the trials will be judged. The calendar for 1963 and 1964 is provisional and may be altered at a later date.

Conditions for entry to the trials

1. All entries must be made on the appropriate forms obtainable from the Director, The Royal Horticultural Society's Gardens, Wisley, Ripley, Woking, Surrey. One form should be completed for each entry. Entrants making application for entry forms are requested to state the number of forms required and whether the forms are needed for flowers or vegetables.

2. When the form relates to a plant normally propagated from seed the entrant must certify on the form either:

(a) that the variety or strain has been raised or developed by him
or (b) that the variety or strain was, or is about to be, introduced by him to British commerce.

The entrant must also supply sufficient particulars of the history of the variety or strain to substantiate his certificate, but such particulars will not be published by the Society without the sender's consent.

3. Entry forms must be completed and returned to Wisley not later than *December* 30, 1961. Entries received after that date cannot be considered for inclusion in the trials.

4. Plants and seeds *should not be sent* until the entrant receives notification that his entry has been accepted.

5. In the event of too many entries being submitted for a particular trial, the Council of The Royal Horticultural Society reserves the right to scale down the number of entries received.

INTERNATIONAL CODE OF NOMENCLATURE FOR CULTIVATED PLANTS

A THIRD edition of the *International Code of Nomenclature for Cultivated Plants* has recently been published and is available for purchase from the Royal Horticultural Society, price 2*s*. 6*d*., post free. In the Preface the Editorial Committee state that it fully realizes the inconvenience of frequent alterations to the Code, but that several important suggestions for improvement had been made since the 1958 Edition, which it was felt should be incorporated; it is hoped that the present edition will remain current for a considerable number of years.

The following is a summary of the more important changes made in the new edition:

1. In articles applicable only on and after 1 January 1959, it has been made clear that the rules refer only to new cultivar (variety) names.

2. The use of botanical names in Latin form as cultivar (variety) names has been clarified (Art. 15 (b) and (c)), and an Article (16) on the orthography of such names has been added.

3. Permission to duplicate cultivar (variety) names within a genus or hybrid-genus has been extended to include all those cases where one or both the cultivar (variety) names would never be attached directly to the generic name, and hence no confusion would be caused (Art. 19).

4. Many of the prohibitions under Art. 21 of the 1958 Edition have proved virtually impossible to enforce as rules, owing to the existence of border-line cases, and these have now been changed to recommendations (Rec. 21A). Art. 21 (j) prohibiting series of names with the same initial word has been omitted completely.

5. The naming of hybrids has been clarified, and brought into line with that of species, by the use of the term "collective epithet" instead of "collective name", the latter term being used to designate the generic name plus the collective epithet (Art. 38 and *passim*).

6. Allowance has been made for the use, where long-established custom or special circumstances demand, of more than one collective epithet to designate hybrids between the same parent species (Art. 40).

7. The Commission felt that the word "official" in the phrase "official registration authority" (Art. 51 and *passim*) might imply "official recognition" of authorities by the Commission. In the present formative phase of the establishment of registration authorities such recognition seemed impracticable, and perhaps undesirable, so the word "official" has been omitted wherever the phrase occurred. The Commission still believes, of course, that the establishment of such authorities, both national and international, is of the greatest importance, and has taken steps, with the co-operation of the Food and Agriculture Organization of the United Nations, to promote their formation in as many groups as possible.

8. Provision has been made for the registration of collective epithets, which has long been the practice, for example, in orchids (Art. 51, Note 3).

There is no doubt that the provisions of the Code are becoming widely accepted among horticulturists, agriculturists, and foresters, and this new edition will be welcomed by all those who are concerned to promote stability and uniformity in the nomenclature of cultivated varieties, or cultivars, as they are internationally known.

GARDEN DELPHINIUMS

Brian J. Langdon, M.A., D.Phil.

(*Lecture given on Tuesday, June* 27, 1961, STUART OGG, V.M.H., *in the Chair*)

I SUPPOSE a lecturer on any subject should begin by defining his terms of reference and I propose therefore with your permission to divide my paper this afternoon into two sections—firstly the cultivation of the garden varieties of *elatum* delphinium with an account of the cultural operations involved, and secondly the raising of new varieties and prospects for the future, indicating how varieties have developed over

the past sixty years. I think also it will be of more interest if I stress the unusual aspects of delphinium growing rather than dwell on comparatively routine matters that all good gardeners take as read. If, therefore, I do not describe in detail such matters as preparation of soil, the actual mechanical operation of sowing seed and so on, this is not because they are unimportant and that care need not be taken, but rather because I wish to utilize the time at my disposal for aspects less widely known and recognized.

Anyone who wishes to build up a collection of garden delphiniums must first of all decide whether to raise his stock from seed or to grow named varieties. In North America, where circumstances and climate are mostly so different from ours, named varieties propagated vegetatively are virtually unknown and nearly all the garden delphiniums are of seed strains in which longevity is not of primary importance. In this country, on the other hand, the emphasis of raisers is on named varieties and native seed strains come only remotely true, even to colour. For this reason, raising a collection of delphiniums from seed, while very considerably cheaper than buying the propagated named varieties, is wasteful in the sense that the seedlings have to be grown for at least one full season in which they can be rogued and the sheep separated from the goats. There is always a certain amount of degeneration from one generation to another in delphinium seed strains unless special care is taken, and it is for this reason that there is such a difference between good and not-so-good strains.

There are several other interesting points connected with the growing of delphiniums from seed which, once the limitations of this method of raising are realized and accepted, is certainly a fascinating pastime. Perhaps the most important to stress is that delphinium seed loses its power to germinate very quickly after harvest unless kept in a refrigerator. For this reason, presumably, many people like to sow their seed in August as soon as the seed is ripe, and this is certainly an excellent time to sow. Many who do so, however, are puzzled when the young seedlings turn yellow and die back in October, believing that they have lost their plants. This is perfectly natural, however, and providing always that the young crowns are given adequate protection against slugs during the dormant period, they will come through strongly in the spring.

It is interesting, too, that the seed of certain shades of delphiniums takes longer to germinate than that of others, so that if a representative selection of colours is required, it is essential to wait until the bulk of the seeds have germinated before pricking out rather than to take the first to show under the mistaken impression that they are necessarily the strongest.

The young seedlings may be planted out in the open when they reach a suitable size, usually between early April and the end of May, and it is advisable to plant them in a nursery bed prior to selection of the best and their subsequent planting in permanent quarters. It is often possible

in this way to raise a number of excellent plants with flowers of good quality, colour and size from seed, but there is always the risk of disappointing types amongst the seedlings and it is most important to realize from the outset that the proportion of really good things may be very small. It is precisely for this reason, of course, that named varieties are so popular, as, having been part of the original selected, named plant, they are identical to it in every way.

The question of the best time to plant delphiniums is one to which there is no set answer other than "it all depends". Other things being equal, autumn planting gives the plants a chance to get established before the winter dormancy, and ensures some sort of a show the following summer, but there is inevitably an element of risk with freshly-planted stock that some of the more delicate varieties—nowadays very much in the minority, fortunately—may succumb under very wet conditions, and it is therefore recommended that where very heavy soils are concerned which lie wet and cold during the winter, or in districts where the slug population is especially active, planting is deferred until the spring, even though this means comparatively little in the way of flowers that same year. Perhaps the best time of all to plant is June, and young stock is often available then at a reduced price and this has plenty of time to get established as growth is encouraged by the warm summer soil.

Protection against slug damage may conveniently be dealt with at this point, as more plants are lost during the winter through lack of protection against these pests, and snails, than through any other cause. It is important to realize that no delphinium has ever been killed by heavy frosts alone, and indeed the ancestors of our present garden forms lived largely in mountainous districts where intensely heavy frosts were the rule. Their garden descendants are no less hardy in this respect, and it is almost invariably through pest or disease that winter losses occur among established stock. Unfortunately there is little general recognition of the fact that virtually all the damage done by slugs is by the small, black species that spends most of its time just beneath the soil surface, and of the fact that once the delphinium shoots show above the ground in the spring, the danger is past. It is, in fact, while the shoots are in their dormant state, below ground level, that they are eaten, and it is therefore essential to afford protection from the moment the plants are cut down in the autumn until the shoots appear again the following spring. There are several proprietary slug poisons which are excellent for killing off or at least reducing the local slug population, but the essence of protection lies in carefully scraping away the soil from the crowns of the plants in October until the dormant shoots just become visible, and covering each crown with a good double-handful or more of some sharp, gritty material such as well-weathered furnace ashes, gravel, or even coarse sand. So many gardeners only think of this protection in early spring, often after the shoots have run the gauntlet of the slugs and have begun to show, by which time the damage has already been done, and the plant weakened in consequence.

Delphiniums take at least one full season to get properly established after moving and in order to ensure that they settle in with the minimum delay and build up into strong clumps they should be restricted to one or two spikes only in their first season. Subsequently, of course, they may be permitted to carry four to six spikes according to variety, the weaker brethren being *cut* away—not just pulled out as this so often tears the crown—until the requisite number remains. The earlier this is done of course, the greater will be the effect on the plant and the spikes that remain.

At the same time as the plants are thinned in this way, usually at the beginning of April, another "chore" has to be dealt with—staking. I will not take up your time now by discussing the pros and cons of the several methods that have been suggested from time to time for staking delphiniums, as in my view there is only one long-term answer to this problem, and that lies in the breeding of varieties that require a minimum of support in the case of the very tall varieties, and none at all in the case of those below a height of about 5 feet. Already we can point to some considerable success in the raising of such varieties, and especially in the raising of dwarf varieties—such as 'Blue Tit'—as the current trial of short-growing varieties at Wisley will testify. Until such time as more wind-resistant varieties are introduced, the use of three canes of overall length 4 feet for each plant is recommended, the canes being placed triangularly with rings of tie at intervals as necessary. This system allows the spikes to sway within the confines of the triangle, is relatively inconspicuous (especially if the canes are soaked in green 'Cuprinol' preservative before use) and is defeated only by really violent winds.

Although delphiniums are gross feeders and respond both to liberal preparation of the ground before planting and generous manuring subsequently, a plentiful supply of water at the root is even more important. Not only is this required in and just before flowering time, but this year's weather has proved that it is more than ever necessary in very early spring when the pattern of the whole year's growth is being set. Thus with heavy ground, waterlogged for months on end in the autumn and winter and early spring—those conditions that one would at first sight have thought would have spelt ruin to delphiniums—we have the best batch of plants we have had for many years, despite a very dry May and June with no measurable rainfall!

A popular fallacy about delphiniums, often I am afraid, suggested by "gardening text-books" that should know better, is that, like many other herbaceous plants, they should be lifted and divided every other year. This is not only wrong in general terms but is based on the mistaken notion that "splitting" is the best way to increase the delphinium.

I am quite certain that the correct policy with these plants is to leave them as long as possible undisturbed—they are not rampant growers in the sense that they spread rapidly and choke other plants, in fact in this respect they are model neighbours, keeping of their own accord to their appointed stations. On the other hand, if for some reason a plant

should not be growing as it should, or if one wishes to increase one's stock of a particular plant, then of course it will have to be lifted, but in such cases, "splitting" is a very inferior method of propagation. In the event of the crown of the plant being even slightly infected with disease, splitting will propagate the disease as well as the plant, and so it is so much preferable to increase one's delphiniums by means of stem cuttings taken in early spring as by this means any disease in the root or crown is eliminated, an entirely fresh root system being built up from scratch.

When taking cuttings it is essential to take the right type of cutting, and this involves the selection of young shoots about 2–4 inches in length and their severance as close to the woody part of the crown as possible. No "heel" is necessary, or indeed desirable, but it is vital that the base of the cutting should be solid and white, and neither hollow nor discoloured, in which cases rotting rather than rooting will occur!

Cuttings taken in this way in early spring and rooted in silver sand or vermiculite in a cold frame or greenhouse will usually be sufficiently rooted in about six to eight weeks to be either potted or transplanted into soil prior to planting in the open in April or May. It may interest you to know that, on average, it takes us about five years to propagate sufficient of a new variety from the original single seedling to the stock of about 750 to 1,000 plants that is necessary for commercial release. In the case of a very few varieties, such as the pale blue 'Betty Hay', this period was reduced to only three years, while such unco-operative types as the purple 'Guy Langdon' took as much as ten to twelve years from the first flowering to catalogue. May I again stress, however, that unless there are very good reasons for moving established delphiniums, the amateur grower is strongly advised to follow the advice of an old West Country nursery-foreman to "let 'em bide where they be".

I now wish to give you some idea of the breeding work which we have been carrying out on delphiniums in the past, and of our hopes and expectations for the future.

I want in fact, to take you back, if that is not an impertinence from one born in 1925, to the beginning of the century, when most of the garden delphiniums had flowers of single form not unlike those of the present-day Belladonna varieties. They were largely raised in France and although several English raisers introduced useful new varieties from time to time, their method of raising was based on the selection principle alone—seed taken from selected plants was sown and the best progeny retained. The seed in question was self-pollinated and no attempt was made to cross-pollinate, and progress was therefore slow.

During the years immediately before and after the First World War, however, my two grandfathers—the late J. B. BLACKMORE and the late C. F. LANGDON, V.M.H.—had been extensively crossing the existing varieties, many of which had serious defects as garden plants, and their

general aims were then, as indeed ours are today, to raise acceptable attractive varieties which above all were strong growing and truly perennial—they had no use for "difficult" plants with a limited life-span. Their application of hybridizing techniques saw the introduction in 1922 of two extremely important varieties—twin milestones in the history of the delphinium in fact—'Sir Douglas Haig', purple, and 'Millicent Blackmore', blue and mauve. Virtually all English varieties raised since that date feature one or other, or both, of these in their pedigrees, and they were almost revolutionary when they first made their appearance, though they seem very ordinary to our eyes today, as the contemporary illustrations show. It is amusing to note that these novelties were priced at 21*s.* each in those days—exactly the same price as new varieties today, almost forty years later!

Development proceeded at Bath and elsewhere, using in the main the two varieties above and while a number of excellent newcomers made their appearance, the predominant colour was mauve, and blue and mauve, largely because these colours were the most vigorous, and while blues were often to be seen, strong growing blues were very few and far between. The next milestone was the raising in 1924 of what at that time was the finest delphinium that the world had seen, both from an attraction point of view and that of vigour—the pale blue and mauve 'Lady Eleanor'. Although now rather past her prime, she is still one of the most popular varieties of commerce and continues as it were, to give excellent service.

Then in 1932 we first saw 'Bridesmaid', again a pale mauve variety and one which regularly produces 8-foot spikes. Like 'Lady Eleanor', 'Bridesmaid' was destined for a great future, and I suppose these two have enjoyed over the years a greater popularity than any other named varieties and perhaps the most surprising thing about them is that they themselves feature between them in the pedigrees of no more than four or five other varieties!

It is no coincidence that both 'Lady Eleanor' and 'Bridesmaid' are predominantly pale mauve in colour as strong growing blues were still very few and far between until the beginning of the Second World War, and of these few the best was the gentian blue 'Lorna', which first flowered in 1930 and which remained popular for many years despite its serious and disfiguring susceptibility to powdery mildew.

Then after the war we saw in this country the American-bred Pacific strain and the English Bishop strain, both of which immediately became popular on account of the high proportion of brilliant blues they contained, though the vigour and perenniality of some of the plants left something to be desired.

In the past few years sufficient really bright blues have been introduced to silence the critics who have pointed to the scarcity of strong-growing true blues in the delphinium colour range, including the vivid 'Cristella', which is one of the earliest to flower (Fig. 147), and the late-flowering 'Greville Stevens' and 'Molly Buchanan', the latter the most

brilliant blue I have ever seen (Fig. 144). These recent bright blues with strong constitution did not appear by accident, of course; very few really useful "breaks" have not been produced the "hard way" by patient breeding work over a number of generations. They have been bred from a variety which first flowered in 1952 and which was then the best blue of its day—'Ann Miller'. We had noticed that the very vigorous grower, the pale mauve 'Blackmore's Glorious', when crossed with blue varieties, had passed on its vigour to its progeny, and yet the blue colour of the other parent had not been swamped by the mauve colour of 'Blackmore's Glorious', because the latter itself had some blue blood in its pedigree. Here, in fact, was the parent we had long wanted—a variety which would impart its constitution to its offspring and yet allow the colour of its co-parent to predominate.

By crossing 'Blackmore's Glorious' with several good blue varieties we raised a number of worth-while seedlings, the best of which was 'Ann Miller', whose other parent was that striking blue 'Charon'. 'Ann Miller' was vigorous, had intense gentian blue colour and very large florets, often 3¾ inches and sometimes 4 inches in diameter, and its subsequent value as a parent has been immense, featuring as it does as either the parent or grandparent of several blues already in commerce, including both 'Greville Stevens' and 'Molly Buchanan' already mentioned, and many more still "on the stocks".

But the quest of the true-blue is only one aspect of delphinium breeding—there are many others, and among those receiving current attention are the breeding of dwarf varieties, the development of disease-resistant types, the selection of those with whippy stems that withstand moderate winds, the development of new colours, such as red and yellow, and so on. Of special interest is the work on shorter growing or dwarf varieties of *elatum* type. No one with an exposed or windswept garden will need to be reminded of the need for such varieties, and all too often one hears, "I can't grow delphiniums in my garden—it's much too windy." By raising delphiniums that bear their spikes on much shorter stems, however, the days when one murmured sympathetic words are gone—now we have specific varieties that revel in such positions.

In 1950 we made our usual number of delphinium crosses between likely parents and when these flowered the usual two years later we were surprised to see in one cross, nestling among other plants a good 3 feet taller, one particular dwarf delphinium about 3½ feet tall. We were surprised because the parents of this plant were two of the tallest varieties we knew—'Royalist' and 'Charles F. Langdon', both of which regularly top the 6-feet mark. I cannot, I am afraid, claim that this result was foreseeable or that we had worked with that end in view, but the fact remains that here was this charming little plant amid all the other giants from the same cross, and of course we have bred from it extensively, though as one would expect from its two parents, first generation progeny from it have in the main tended to be rather taller

than itself. 'Blue Tit', as this variety was christened, and similar dwarf varieties such as 'Pageboy', need no staking under normal conditions and the shortening has taken the form of a diminished stem of foliage rather than sacrifice of flower spike. True, the spikes are a little shorter than other varieties, but the foliage is in the form of a compact rosette of leaves and it is here that the main saving in height is evident. More varieties of comparable height are in the development stage, and it is hoped that a strain of dwarf seed which comes true to type will become available before long.

There is much potential in the delphinium yet to be realized and much breeding work still to be done, but we must be constantly on our guard to ensure that the developments for which we strive are synonomous with "improvements" in the best sense of that much abused word, and that we do not lose sight of that ideal delphinium envisaged by the early pioneers and hybridists, which was above all other things "a good garden plant".

DAPHNES

Eliot Hodgkin

Lecture given on July 25, 1961, THE HON. LEWIS PALMER, F.L.S., V.M.H., *in the Chair.*)

IT is right and proper that this lovely, yet unpredictable genus should bear a feminine name; anyone who has grown these shrubs is entranced by their beauty and exasperated by their capriciousness. Like most generalizations, this is no more than a half-truth, for there are species which in many gardens settle down and grow happily for years until they die of old age. Probably some are naturally short lived; certainly *Daphne mezereum* in the European mountains hardly ever gives the appearance of being more than a few years old, and a large specimen is rare.

Geographically the genus spreads over Europe and Asia, from the west Atlantic coast to the eastern seaboard of Japan, but most of the species are found in the Himalayas and in China. This takes no account of the tropical species which are never likely to be worth growing and are for our purpose best ignored.

The number of species is uncertain—it may be as little as fifty or as great as eighty. This uncertainty is due partly to differences of opinion among botanists on what is a distinct species, but mainly to the lack of an up-to-date monograph of the genus. There is here a taxonomic tangle which badly needs bringing to order, and it is to be hoped that the great present-day interest in daphnes will encourage or goad the botanists to undertake this work, so long overdue. Some of the older botanists suffered curiously from lack of imagination in their naming; for example,

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in addition to LINNAEUS' *D. alpina*, the true one, there are four others, synonyms of *blagayana* and forms of *oleoides*. *D. jasminea* is still occasionally offered in the trade, but it is only a synonym of *oleoides*; the true plant, which is totally different, is barely in cultivation, if at all. The name *D. verlotii* is often given to the neat prostrate form of *cneorum* from the Pyrenees, whereas the true plant is a straggling open-growing bushlet from the Grenoble district. These mistakes and confusions will persist until the gardener has a reliable monograph to turn to. The first step along this road should surely be the formation of a national collection of daphnes in one of the botanic gardens.

No attempt will be made here to deal with the botanical characteristics of the genus, but those wanting a description of the individual species are referred to BEAN's *Trees and Shrubs Hardy in the British Isles* and to the R.H.S. Dictionary, though neither work covers all the species, forms and hybrids now in cultivation, and there are mistakes in both.

Daphnes have many attractions for the gardener. Generally they are neat, small, shapely shrubs, which fit well into rock gardens, or small borders. Many are evergreen and many have sweet-scented, and brightly coloured flowers. But above all they have an air of distinction and refinement, which is easily recognized, but difficult to define. Although they may sometimes be fickle, and die for no obvious reason, they have few fads and can usually be made happy in a well-drained soil with plenty of humus. Almost all of them are perfectly hardy, and the commoner ones at least can be grown anywhere.

Let us first consider the best known. *D. mezereum* is an old cottage-garden plant which bears its sweetly scented rosy purple or white flowers in February before the leaves. The best white form is usually known as 'Bowles' White', and is probably the same as the one which used to be called 'Paul's White'. The books speak of a double white and it would be interesting to know whether it still exists. A form known as *grandiflora* (or *autumnalis*) flowers in October. It is a rare plant, probably because it can only be propagated by grafting. As this species puts its roots down deeply, it should be planted in its permanent position when small. It comes easily from seed, if you can rescue them before the birds get them. In southern Japan grows a near relative *D. pseudo-mezereum* of botanical interest only, as its greenish yellow flowers are not exciting: it has a counterpart in northern Japan named *D. jezoensis*. *D. kamtschatica*, a somewhat similar plant, comes from the same area.

D. cneorum is a prostrate evergreen and forms a thick mat with sweetly scented pink flowers in April. Although plants imported from Holland appear to be growing in peat, it does perfectly well on limy soils. There are several forms, including one with variegated leaves, but far and away the best is known as var. *eximia* with larger blooms of a deep pink. It originated among a batch of collected plants sent to the late A. T. JOHNSON by the nurseryman JOHN STORMONTH of Carlisle (Fig. 149).

There are at least two small mat-forming, pink-flowered forms, of which one is common in the Pyrenees. Very lovely is the small white form found by CORREVON in the Jura in 1911. It is extremely slow growing but has great charm. This often passes, quite wrongly, under the name of *Daphne verlotii alba*. The true names of this and the two pink forms must await a botanical investigation. *D. verlotii*, referred to earlier, is almost certainly no more than a variety of *cneorum*.

Closely related to *cneorum* is *D. striata*, which grows in pink and white forms on the Col du Lautaret in the Savoy Alps, and more abundantly in the Eastern Alps. It is more untidy and the flowers are less brilliant and it gets its name from the striations on its tube. It is a very difficult plant to grow.

D. collina, which comes from Italy and Crete but is hardy, is among the finest. In time it forms a completely globular evergreen bush, up to 3 feet high, with deep green leaves, covered in May (and sometimes again in autumn) with heavily scented rosy flowers. At its best it is very good indeed, but it often has the maddening habit of slowly dying from the centre outwards. Akin to it, but not so brilliant, is *D. sericea*, with narrower, olive green leaves and fewer flowers. The plant known as *D. neapolitana*, which was once widely grown, is something of a mystery. It used to be regarded as a variety of *collina*, but now it is thought to be a natural hybrid between *cneorum* and either *collina* or *oleoides*. Whatever its status, it is a good garden plant with rather narrow ash-green leaves and a fine show of rather small scented rosy-purple flowers. It is sometimes listed as *D. fioniana*.

D. retusa and *tangutica* at first blush look much alike with their lustrous dark green foliage, but *tangutica*'s leaves are longer and slenderer. Both are long lived and will in time reach 3 feet or a little more, and both have sweetly scented rosy purple flowers, white inside. These two Chinese species are among the finest, and being evergreen and neat in habit are attractive all the year round; *tangutica* opens its flowers in April and *retusa* follows in May. REGINALD FARRER introduced *tangutica* from Kansu in 1914. He also sent home seed of a white form, which has become very rare. Probably all the present stock originated from the late DR. JENKIN of Hindhead, who increased it by grafting. It differs from the type not only in the colour of the flowers, but also by its more straggling habit, the lighter green of its leaves and by being only semi-evergreen, many of its blooms appearing on the bare wood. While *tangutica* itself is easily propagated by cuttings, the white form is difficult to strike. This may account for its rarity, for it is a beautiful plant.

Most rock gardeners would pronounce *D. petraea* (*rupestris*) and particularly its *grandiflora* form as the prize among daphnes. It comes from a quite small area in the mountains round Lake Garda where it makes small mounds in the cracks of the rocks. So brilliant are its flowers that it can be seen a long way off as a pink splash on the mountain face. It is a very slow grower, and needs skill and patience to produce

a plant a foot across. It is best grown in a pan where it can be watched, and the beauty and scent of its blooms properly appreciated. In 1911 FARRER found a hybrid on the Cima Tombea between it and *striata* which he named × *thauma*. It is roughly halfway between the two and is likewise a beauty, but perhaps not quite up to *petraea grandiflora*. Years later in 1930 another natural hybrid, this time between *petraea* and *cneorum* was discovered in the same area and named × *hendersonii* after SIR ARTHUR HENDERSON who found it, but it has never been in cultivation.

D. arbuscula, though botanically close to *petraea*, is quite distinct and easily recognized by its dark polished evergreen leaves. It is only known from Hungary and is compact and dwarf, never rising above 8 inches or so, and bearing rosy pink flowers in spring. Cultivation and propagation by cuttings present no difficulties.

D. odora is another good plant, with rosy purple flowers in April or May. It is one of the larger daphnes, with an open habit and very floriferous when it is happily placed. The type is rather tender, but for some reason the variegated form (var. *aureo-marginata*) is hardier and should do in all but the coldest gardens, if given full sun and good soil. It is the same thing as *D. indica* of some older books and lists. There is, or was, in cultivation a rather mysterious plant called *D. japonica*, differing mainly in having fewer flowers in each head, and bearing them in the axils as well as in terminal clusters. It is probably nothing more than an abnormal form of *odora*. It grows in China, but curiously enough not in Japan. There are white forms of *odora* and of the variegated variety, but both are very scarce. The first may be what the Japanese botanists call *D. kiusiana*. This has only recently come into cultivation, and appears to be tender, which is to be expected as it was introduced from southern Japan.

A very different plant is *D. blagayana*, whose home is in sub-alpine woods in Jugoslavia, Albania and Bulgaria. It is a rather straggling, completely prostrate evergreen which if pegged down and the stem covered with soil will root as it runs. Its creamy white heads are very fragrant and, although it is said to come from limestone hills, it loves peat, and thrives in an acid soil. There are two forms in cultivation; one flowers about a fortnight earlier in March than the other, and is rather more compact, but both are lovely.

D. genkwa should perhaps have been mentioned after *D. mezereum* as it shares with it the habit of flowering before the leaves. Its open and twiggy habit is most distinct and its flowers are soft lilac—a unique colour in the genus. It has an ethereal quality which more than compensates for its lack of scent. It is not altogether easy to grow, and is a little tender. Some hold that plants on their own roots are better than grafted ones, but there is insufficient evidence yet to settle this point. It has long been cultivated in Japan, but is found wild only in China. So far as is known, it has never set seed in this country and perhaps all our plants are from the same clone. It has been grown in the open in

the New York Botanic Gardens for about thirty years, and has become there a large shrub with thick branches. Clearly this form must be bone hardy. It seems to be a much more vigorous and tractable plant, with slightly larger flowers. A plant obtained from there has withstood three winters outside (though these were not severe ones), but its flowers are a little frost tender, at least if not sheltered from the early morning sun. The usual method of propagation, other than by grafting, is by root cuttings, though some people have succeeded with ordinary cuttings.

We now come to two species with yellow flowers, both from China. *D. giraldii* grows to about 2½ feet and is deciduous. Its flowers are only slightly fragrant, but they are a good clear yellow (Fig. 148). It was introduced early in the century by PURDOM, who was collecting for Veitch & Sons. *D. aurantiaca* was discovered at about the same period by FORREST in Yunnan. It is sometimes so prostrate that it will hug the contours of a rock (this is probably the form known as *D. calcicola*) but it may in suitable conditions reach 2 to 3 feet in height. It has opposite leaves, whereas most other daphnes have alternate ones. The flowers which are orange-yellow are richly scented.

This concludes what one might call the most brilliant of the species at present in cultivation. But there are a number of others which are well worth growing, even though they may be in the second rank. Most of them have white or greenish white flowers. Among these is our native plant *D. laureola* with dark, shiny, evergreen leaves and racemes of yellowish green flowers in February—by no means exciting, but worth a place in woodland for its early blooming. Better is its variety *philippii* from the Pyrenees, for its flowers are scented and it is dwarfer. Better still is *D. pontica* from Asia Minor, which may reach 4–5 feet and has very fragrant greenish yellow flowers in April. A group of them will scent a corner of the garden. It needs shade and a humusy, lime-free soil.

Among those with white flowers is *D. oleoides*, with a Mediterranean distribution from Spain to Turkey. Because of the wide variation in the size of the plant and of the leaves, it has many synonyms and a number of varieties and forms. The one usually grown is var. *buxifolia*, an evergreen reaching about 2 feet with greyish green leaves. All have some scent. Recently a very large-leaved form from Greece has been given specific rank as *D. euboica*. Very similar is *D. alpina*, with a more northerly distribution in France, Italy and parts of Central Europe. It differs mainly in being deciduous and in the stem being much more branched. It varies somewhat, and one should look out for forms with clear white blooms.

The next four species all have white flowers and may grow as tall as 4 to 6 feet. *D. caucasica*, with glistening, fragrant flowers in May is a worthy plant. *D. longilobata*, a plant collected by LUDLOW & SHERRIFF (L. & S. 15803) was previously known as a variety of *acutiloba* but has recently been given specific rank. Its flowers are small, and scentless

and of a poor white: its only merit is that it produces them throughout the summer. *D. acutiloba* is sweetly scented, and has the advantage of flowering late, in July. *D. altaica* seems to have little to recommend it as a garden plant. *D. caucasica* and *altaica* are deciduous, the other two are evergreen.

There are several good hybrids, of which the best known is × *burkwoodii*. It was raised by MR. ALBERT BURKWOOD, who crossed *caucasica* and *cneorum*, the one parent being deciduous, the other evergreen; the offspring is only partially evergreen. It is a dwarf shrub, rarely exceeding 3 feet, with white flushed pink flowers in dense clusters, which extend from the tips of the branches, like a flue-brush. There is another and more vigorous form, *burkwoodii* 'Somerset', raised by ALBERT's brother ARTHUR, at about the same time. This makes a large rounded bush, 5 feet high, and the same through, with slightly larger flowers, but the clusters are not so protuberant. Both forms are strongly scented and are among the easiest and most satisfactory of all the daphnes.

The origin of *D.* × *hybrida* is obscure, but it has long been in cultivation. It is almost certainly a cross between *collina* and *odora*. Although it is a rather ungainly shrub growing up to 4 feet or so, with darkish evergreen leaves, it has heavily scented flowers like *odora*, but rather smaller, which are produced all through the winter and there are always a few to be picked on Christmas Day. It has no fads, but is not reliably hardy everywhere, and should be given a little shelter.

Daphne × *houtteana* is something of a mystery. It is a partially evergreen shrub with stiff erect branches up to about 3 feet, and is peculiar in having leaves which start green but soon become dark purple. The flowers too are dark purplish red. It was first described and figured by LOUIS VAN HOUTTE, a Belgian nurseryman, in the *Flore des Serres* in 1851, but he did not know its origin, or give it a name. It is thought to be a cross between *laureola* and *mezereum*, but some botanists think that it is a mutation of *mezereum*. Quite recently it has appeared spontaneously in a garden, which tends to confirm that it is a hybrid. Although a curiosity, it is well worth a place in the garden if only for its beautiful leaves.

Another curiosity is × *rosetii*, a natural hybrid between *laureola* f. *philippi* and *cneorum*, found by HENRI CORREVON in 1927 near Les Eaux Chaudes in the Pyrenees. It is a neat little evergreen bush, but that is about all one can say for it, as its flowers, oddly described as buff brown, are rarely produced in this country.

Other hybrids include *D.* × *lavenirii*, a cross between *cneorum* and *alpina*, made by M. LAVENIR of Lyons, and *mantesiana* (*burkwoodii* × *retusa*) put out by a Canadian nursery. *D. petraea* has been crossed with *arbuscula*. But little systematic work has been done, and it is to be hoped therefore that some enthusiast will enter this field, if only to produce plants with hybrid vigour.

We come now to the groups of species which are either barely in

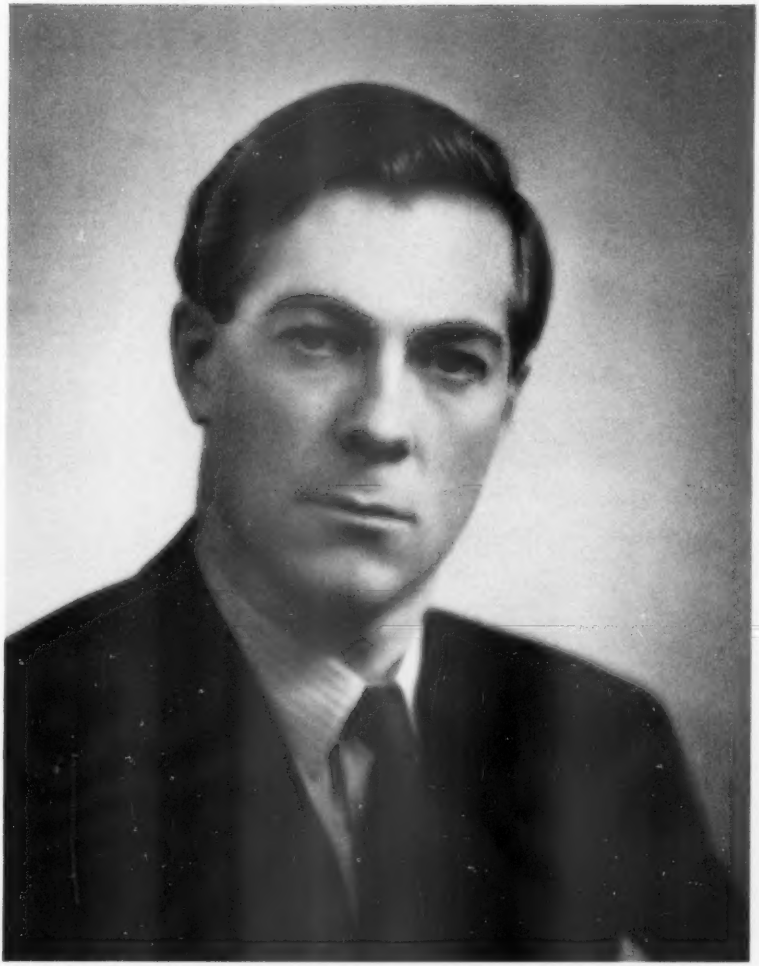


Photo: Van Dyke

FIG. 142—LORD ABERCONWAY, who has been elected by the Council as President to succeed The Hon. SIR DAVID BOWES LYON, K.C.V.O., V.M.H.

Photo: H. Davenport-Jones

FIG. 143—*Muscari macrocarpum*. The yellow musk hyacinth from S.E. Aegean Islands and Western Anatolia (see p. 492)

Photo: Brian Langdon

FIG. 144—Delphinium 'Molly Buchanan'. A fine late-flowering variety of the most brilliant colouring. Reproduced by kind permission of The Delphinium Society (see p. 479)

Photo: J. E. Downward

FIG. 145—Acacia 'Exeter Hybrid'. **A.M.** February 28, 1961, as a shrub for the cool greenhouse. Raised by Messrs. R. Veitch & Sons Ltd, of Exeter and shown by L. Maurice Mason, Esq., V.M.H. (see p. 503)

Photo: J. E. Downward

FIG. 146—Rose 'Iceberg'. **A.M.** July 11, 1961. A fine floribunda variety raised by HERR W. KORDES in Germany. Shown by MR. S. M. GAULT of Regent's Park

(see p. 506)

Photo: Brian Langdon

FIG. 147—Delphinium 'Cristella'. One of the most vivid blue delphiniums, which is also one of the earliest flowering. This variety received an **F.C.C.** at the Wisley Trials, 1961. Reproduced by kind permission of The Delphinium Society

(see p. 479)

Photo: Eliot Hodgkin

FIG. 148—*Daphne giraldii*. A rare species from N.W. China (see p. 485)

Photo: V. Finnis

FIG. 149—*Daphne cneorum* var. *eximea*. A plant growing at Waterperry Horticultural School and measuring 4 feet across when photographed. It is now 5 to 6 feet in diameter (see p. 482)

Photo: Douglas Elliott

FIG. 150—*Blandfordia nobilis* (see p. 496)

Photo: Francis G. Eyre

FIG. 151—Bergenia 'Delbees' sometimes known as 'Ballawley Hybrid' (see p. 495)

cultivation, or still await introduction. *D. glomerata* has been introduced on several occasions from the Caucasus and the Middle East, but has proved very difficult to grow, though it has never died out completely. It is a dwarf evergreen shrub under 1 feet high, which spreads by underground stolons. The flowers are creamy yellow to start with, but then turn pink, from the bottom upwards. They are heavily scented and there is no doubt that this is a desirable plant, if only we can find out how to grow it. Shade and peat are a possible answer.

D. bholua from the Himalayas is a stick-like plant which may reach 6–7 feet. It is described as evergreen, but my plant always sheds its leaves. It is certainly rather tender and takes many years to bloom. Its flowers which come in January or February are comparatively large, scented, reddish mauve externally and creamy white within. The stems are covered with paper-like bark, which in Nepal is used for making paper and string. *D. papyracea* and *D. sureil* are somewhat similar and equally elusive.

In 1960 plants of *D. julia* were sent to this country by the Moscow Botanic Gardens. It appears to be endemic to Voronesh. So far in the garden it is hardly distinguishable from *D. cneorum*, though it has more florets in the head, and looks as if it will have a more upright habit. The Russians describe it as deciduous but in our milder climate it seems to be evergreen. Another Russian species, *D. sophia*, was received by the late MR. T. HAY from Moscow before the last war, but died out. He described it as a neat shapely bush about 2 feet high with terminal clusters of pure white, very fragrant flowers, produced in spring, and again in August, while ripe fruit from the first flowering are present. It has soft, dark green, deciduous leaves. In SIBTHORP's *Flora Graeca*, is a lovely coloured plate of *D. jasminea*, which he described as a small shrub, usually prostrate, but sometimes a foot high, having sweet scented flowers, pink to purple outside, white inside. As this plant had never been in cultivation, I visited one of its reputed homes, in the neighbourhood of Athens, some years ago, and after a prolonged search found a few plants growing in rock crevices, just like *D. petraea*, to which it is related. It was impossible to collect, but a few broken twigs were put into a polythene bag, and ten days later were given to MR. N. G. BAGULEY, who successfully grafted a plant on to *D. mezereum*. This single plant has flowered several times, but has defied further propagation. It has twisting, straggling branches, like a dwarf willow, with very small and rather greyish leaves. Although not in the front rank, it has a quiet charm, and a long flowering season, which make it well worth while persisting with.

There are many daphnes which have never been introduced, and almost certainly some which have not even been discovered. *D. libanotica*, from the Lebanon, was described only in 1947, and *D. rechingeri*, a form of *mezereum* from Persia and the Caucasus, as recently as 1960. Neither, however, is likely to be of garden interest.

There is still no golden rule for the culture of daphnes. It has been said that no garden exists in which even all the hardy species can be

successfully grown. It is certainly true that anyone who tries to make a collection of daphnes usually finds that there are some which will not grow for him, however hard he tries to make them happy. And these difficult ones vary from garden to garden. All one can do is to give some broad principles. In general they need a sunny position in open well-drained soil with plenty of humus in it. Many of them, as the late W. J. BEAN, rather quaintly, put it, "like a permanently moist bottom", but it is not always easy to provide good drainage, and at the same time moisture at the roots. Drought can kill, and many daphnes died in the long hot summer of 1959. Nearly all the European species and many from China come from limestone areas, but I doubt whether any must have lime. Many certainly like some peat or leaf mould in the soil, but very few seem to be lime-haters, though *retusa* is said to be.

No one has satisfactorily explained why many daphnes, often apparently in vigorous health, suddenly flop, collapse and die. In some cases it may be due to a virus infection—this happens with *D. mezereum* —or to bad cultivation, e.g. drought, or again some may simply be short lived—we have very little knowledge of their expectation of life. But many deaths are clearly not due to any of these causes. A few years ago a number of my daphnes seemed on the brink of the tomb; in desperation, I treated them with Sequestrene Plus with the idea that they might be suffering from a deficiency of trace elements. To my surprise, some of them revived, and are alive today. This experiment was by no means conclusive, but others might like to try it.

The propagation of daphnes is, with a few exceptions, a matter of no great difficulty. Some of the exceptions have already been mentioned. The easiest method is from stem cuttings: *cneorum*, *collina*, *sericea*, *tangutica*, *retusa*, *arbuscula*, × *burkwoodii*, among others, will all strike without difficulty, provided the cuttings are put in about the end of June. If left much later they will either not root at all, or only in the following spring, and then very sparingly. Propagation from seed is of course restricted to those that set seed in this country, and in any case cuttings are quicker and more reliable, though *D. mezereum* must be propagated from seed. Some find that seeds often fail to germinate; certainly imported seeds often do not come up. The lesson is to sow as soon as ripe. *D. genkwa* is usually propagated from root cuttings or by grafting, though some green-fingered propagators have succeeded with stem cuttings. *D. petraea grandiflora* and *D. mezereum grandiflora* must both be grafted. The usual stock is *D. mezereum*, though others have been used.

THE FRUITING OF THE PERIWINKLES (*VINCA MAJOR* AND *V. MINOR*)

E. J. Salisbury

BOTH the familiar periwinkles (*Vinca major* and *V. minor*) grow wild in Central Europe. The former would appear to have been introduced to English gardens about 1550 and *Vinca minor* probably earlier. From GERARD's Herbal (1) one can infer that they were both commonly grown in London gardens in the mid-seventeenth century. Nevertheless, throughout the four hundred or more years of their presence here all those who comment upon their reproduction by seed agree that both species very rarely fruit in this country. CURTIS, writing towards the end of the eighteenth century of the Lesser Periwinkle, stated "The ripe seed vesssel of this plant I have not been able to discover; they are most probably rarely produced"(2). In describing *Vinca major* he makes no mention of the fruit.

Both species, as gardeners know all too well, can spread with great rapidity by means of their arching stolons which root at the tips. The stolons of *V. major* as KERNER recorded (3) can attain a length of over 7 feet. If *Vinca minor* has 46 chromosomes and *V. major* 92 (4) such polyploidy is frequently associated with rampant vegetative growth and poor reproduction by seed (5).

The object of this short account is to draw attention to the fruiting of both species this year in several English localities, apparently associated with the exceptionally dry summer, and to record several features of their reproduction that supplement or correct the published information.

A few weeks back, when examining a colony of *V. major* on a Sussex hedgebank with a south aspect, I found that, no doubt owing to the drought, the plants had produced either no stolons or very short ones but were fruiting freely. In another Sussex locality plants in full sun were also fruiting freely but in a third station in partial shade, where again stolon formation was almost in abeyance, fruits were absent. One recalls the observation of MILLER that he had induced fruit formation by removal of the stolons. However, that stolon supression alone is not the determining factor is indicated by the fruiting of plants in a Hertfordshire locality this year which plants produced stolons also that measured about 4½ feet in length (average *c.* 22 cm.). From this same Hertfordshire locality my sister MISS E. M. SALISBURY has also sent me fruiting specimens of *Vinca minor*. I hope therefore that other Fellows who have colonies, of either or both species, will examine them for fruiting and if fertile note the conditions as to illumination, moisture and the degree of stolon formation.

Several features of these fruiting plants are of interest. Normally the fruit of a *Vinca* consists of two divergent follicles, but in both species,

through abortion, a single follicle only may be found (see Text Fig. 1A, uppermost fruit) whilst one specimen of a fruit of *Vinca minor* consisted of three follicles (Text Fig. 1E).

In all the specimens of *Vinca minor* fruits, with two follicles, which I have seen these were more or less straight so that the mature fruit was V-shaped whereas in *Vinca major* the divergent follicles arch away from one another as shown in the figure (A, B and C).

In the *Flora of the British Isles* it is stated that the follicles of *V. minor* contain from 1 to 4 seeds and when mature are 25 mm. in length whilst those of *V. major* are 40–50 mm. and contain 1 to 2 seeds (6). But this distinction as to the number of seeds is invalid since the number of seeds in the follicles of *V. major* that I have examined ranged from 1 to 5. The data from thirty-four follicles of *V. major* is appended and though the mode is 2 it will be seen that about one-third, of this small sample, contained 3–5 seeds. Most *V. minor* follicles contain 1–2 seeds only.

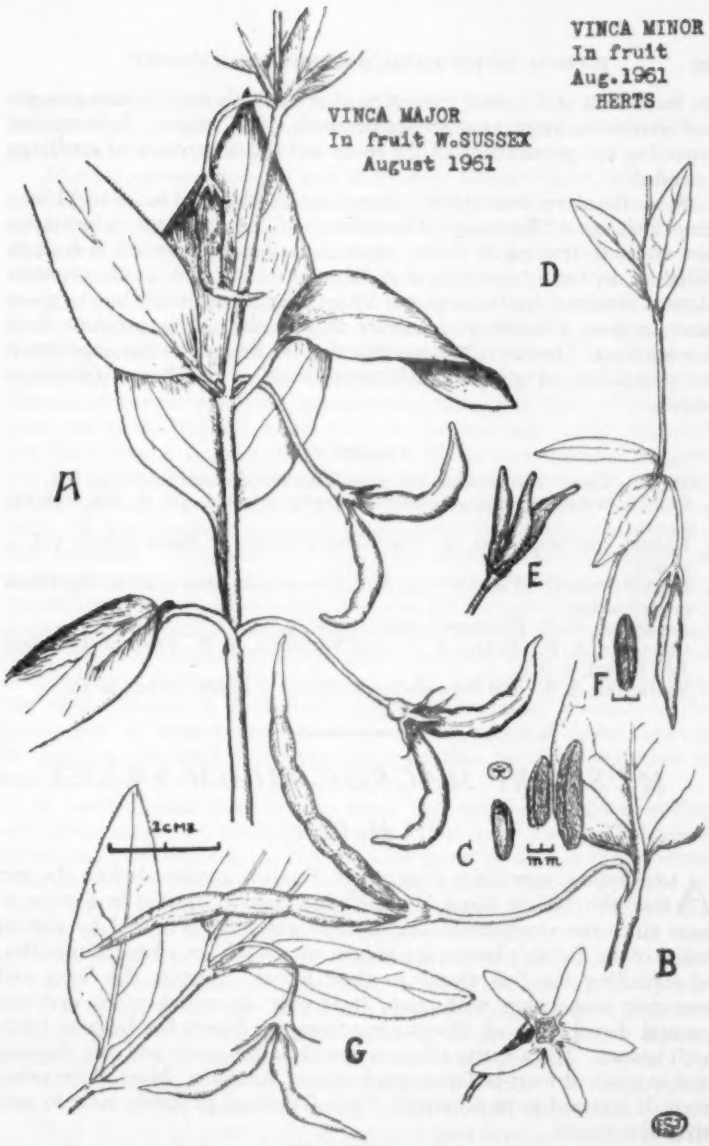
NUMBER OF SEEDS PER FOLLICLE OF *Vinca Major*

Seeds per follicle	1	2	3	4	5	Average/follicle 2·2
Number of specimens	9	14	7	3	1	Total specimens 34

Two and a half centimetres is probably a fair average for the length of fertile follicles of *V. minor* though single-seeded ones are often appreciably shorter (15 mm.) and others may be half as long again. Those of *V. major*, I have measured, ranged from 2 cm. (usually with one or two seeds) to 57 mm. with five seeds.

SIR FREDERICK STERN kindly allowed me to examine two large colonies of the narrow-petalled variety of *Vinca major* growing on the chalk at Highdown. Both these are fruiting freely (Text Fig. 1G) and one, which extended from the open in considerable shade was fruiting nearly as well in the poor illumination; 27 per cent of these fruits had one follicle and 73 per cent two. Of 143 follicles which I examined most (71) contained a single seed, 47 had two seeds, 23 had three seeds and two only four seeds. One shoot, bearing three fruits, had elongated into a stolon 154 inches in length. Indeed, having regard to the dry season the stolon development was remarkably vigorous.

The seeds of Vincas are dark brown or blackish, when fully ripe, with an inrolled margin and a longitudinally puckered surface. When there is but one seed this is in shape not unlike a date-stone (Text Fig. 1C). When several seeds are present either one or both ends are obliquely truncate (Text Fig. 1C). In common with many other plants of shady habitats their seeds are large (7). The average weight of over 200 seeds of *V. minor* collected in France was 0·02 gm. and the heaviest of these 0·027 gm. The average of a small sample of seeds of *V. major* was 0·026



TEXT FIG. 1.

Fruits and seeds of Periwinkles (*Vinca major* A, B, C; *Vinca minor* D, E, F) A. Fruiting specimen of *V. major* showing two fruits with two follicles the lower containing four seeds each and above a fruit of a single follicle containing two seeds. B. A fruit of two follicles, one containing four seeds and the other five. C. Three seeds of *V. major* intact and one in section. D. Fruiting specimen of *V. minor* showing a pair of follicles, one partially aborted. E. A fruit of three follicles, each containing a single seed. F. Seed. The scale of the seed figures is twice that of the others. G. Fruiting specimen and flower of the narrower-petalled var. of *V. major*.

gm. but a fruit of *V. minor* consisting of one follicle may contain a single seed almost as large as comparable seeds of *V. major*. Information respecting the germination of the seeds and the occurrence of seedlings is needed.

Since the above was written I have found both *Vinca major* and *Vinca minor* fruiting at "Boswells", Wendover, and MR. STENNING informs me they are both fruiting at Kew. *Vinca major* has been found in fruit in Wiltshire, by LADY RADNOR, and at Ashton Wold by MRS. LANE. CHARLES DARWIN obtained fruits on plants he artificially pollinated but he grew these in pots, a method of culture that is claimed to promote fruit development. However, it is possible that the dry season has augmented the population of effective pollinators such as the Bee, *Anthophora pilipes*.

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MUSCARI MACROCARPUM SWEET

P. H. Davis

ALTHOUGH it may have died out of English gardens before the last war, the Yellow Musk Hyacinth has been cultivated in Europe at least since the seventeenth century. It was once favoured by certain ladies of the Sultan's harem as a means, we are told by a French traveller, of signalling the "all clear" to their lovers. Despite this long and romantic association with man, it is only in recent years that the natural distribution of *Muscari macrocarpum* Sweet has become fairly well known. It is a native of a few islands in the south and east Aegean, and extends at least as far as westernmost Anatolia. Most of the other records referred to in BOISSIER's *Flora Orientalis* probably refer to cultivated material.

The plant illustrated here (Fig. 143), beautifully grown by MISS HILDA DAVENPORT-JONES in her garden in Kent, originated from bulbs introduced by the writer from the Cycladean island of Amorgos in 1940. The bulbs came from a garden in the village of Langadha, but the species was also found high on the neighbouring limestone cliffs where

there could be little doubt of its indigenity. I have also seen it on the limestone screes of Samos and among serpentine rocks on the Marmaris peninsula of western Turkey.

Muscari macrocarpum belongs to Section *Muscari* (Sect. *Moscharia*), a small group of little-known species that differ considerably from other members of the genus. The species illustrated shows the diagnostic characters that typify the section: large, yellowish, very fragrant flowers with a small "corona"—a rosette of six small lobes borne on the angles near the top of the constricted corolla and outside the true corolla teeth. It also has some other features not seen in the blue Grape Hyacinths (Sect. *Botryanthus*) or in Sect. *Leopoldia* (*M. comosum* and its allies): the large bulb produces rather few, thick, fleshy, perennial (?) roots (instead of numerous slender annual ones) rather like those of Iris Sect. *Juno*, the leaves die off much later in the summer (early August)* and the capsules are manifestly larger. Herbarium material suggests that the capsule is shed before dehiscence (presumably an adaptation to wind dispersal), but confirmation of this feature is required on the living plant. In other sections the capsules are never shed and dehisce on the infructescence. (A similar type of indehiscent dispersal is found in one small subsection of *Bellevalia*, a closely allied genus which differs from typical Muscari in its unconstricted flowers with longer lobes and smooth seeds with a blue-black waxy bloom, instead of reticulately wrinkled and sooty black.) Consideration of these features, and the distinctive morphology of the large chromosomes of *M. macrocarpum*, may suggest that Sect. *Muscari* is generically distinct from other species of the genus, but at least two species show morphological links between *M. macrocarpum* and Sect. *Leopoldia*, so that the fragmentation of *Muscari*, would seem to be unnecessary.

M. macrocarpum has three to seven firm strap-shaped leaves that vary from weakly to strongly glaucous. The very shortly pedicelled flowers are ovate-oblong, the largest in the genus (8–10 mm.), and when open are a soft shade of yellow (usually what botanists describe as "flava") with purplish brown teeth. The unopened buds (of which the topmost probably belong to sterile flowers) are dusky violet, but this feature is not always constant—on Samos the racemes are entirely yellow. To earlier generations (including those ladies of the harem) the flowers smelt of musk; to me they smell like ripe bananas, to others like carnations. The three-winged capsule can be as much as 3 cm. across. An account of the plant's taxonomy and nomenclature is given by DR. W. B. TURRILL in the *Botanical Magazine* (N.S., Tab. 124; 1950) where the technical characters of the flower are well illustrated.

There can be no doubt that *M. macrocarpum* is very closely allied to *M. muscarimi* Medic. (*M. moschatum* Willd.), the Musk Hyacinth, and

* I am indebted to Mr. E. B. Anderson for drawing my attention to these vegetative characters. He believes that most of the bulbs now growing in Britain originated from my re-introduction from the Cyclades which he kept going in his garden in Rickmansworth throughout the War.

was originally described as a variety of that species (as *M. moschatum* var. *flavum* Gawl.). *M. racemosum* Mill. is the earliest name for the Musk Hyacinth, but as that epithet has been frequently applied to a common blue Grape Hyacinth it seems desirable to abandon it as a *nomen confusum*, as suggested by DR. TURRILL. *M. macrocarpum* differs from *M. muscarimi* mainly in the colour of its flowers, those of the latter, as I have seen the plant in western Anatolia, being of a dirty ivory colour and a little shorter; the capsules of *M. macrocarpum* are decidedly larger. Whether our plant deserves specific rank cannot be settled until the group is better known—all are rare plants in nature and we know very little of their variability.

In the southern part of England and in the Midlands *M. macrocarpum* flowers well out of doors and is certainly hardy. It is a handsome plant for the rock garden where it appreciates a deep limy pocket of loam in full sun. Flowering will no doubt be improved if the bulbs can be given a pane of glass and dried off from July to October, but MR. E. B. ANDERSON tells me that they flowered well in neutral soil at Porlock under a canopy of *Cotoneaster frigida* whose roots dried out the soil to a certain extent. In the cold frame or alpine house the species needs a deep pot to accommodate its thick fleshy roots. It can be propagated by daughter bulbs in gardens where it flourishes, and comes well from seed when this can be obtained, which is not every year or in abundance. The plant received an Award of Merit when exhibited by MR. E. B. ANDERSON in 1948.

In connection with my efforts to monograph *Muscari*, I should be very grateful if anyone could supply me with bulbs of the true *M. muscarimi*, now very rare in cultivation, and the allied *M. aestivale* Baker. Observations on the seed dispersal of *M. macrocarpum* would be much appreciated.

NOTES FROM FELLOWS

Hybrid Bergenia

WILLIAM ROBINSON writing in the *English Flower Garden* in 1898 foresaw a great future for bergenia hybrids as garden plants. At this time they were *Saxifraga megasea*. He was much impressed by the hybrids being raised then by MR. T. SMITH of Newry. These were largely hybrids between *B. cordifolia* and *B. purpurascens* and included the following varieties: 'Brilliant', 'Croesus', 'Distinction', 'Progress', 'Sturdy'. These varied in height between 6 inches and 1½ feet. He states as follows: "We have here a group of fine-leaved and flowering plants worthy of every attention, for we do not believe that the hybrids now known, fine as they are, will remain long the best now that it is seen that the species and varieties seed so freely and give such good results when crossed."

B. cordifolia, a native of Siberia, always flowers freely, and the heart-shaped leaves are very evergreen, a most useful plant. *B. purpurascens*, from the Himalayas above Sikkim, does not flower at all freely with me, although planted in good soil and a moist position, the rounded obovate foliage is often richly tinted with orange and scarlet. The nodding panicles of purple flowers are 10–12 inches high.

One species of bergenia that I grow under number S.S.W. 8645, collected in Nepal, has glabrous leaves which turn to butter-yellow in the autumn, before dying down entirely, and the leaves reappear by the middle of March.

Bergenia ligulata var. *ciliata* from Nepal and Kumaon with its very hairy large leaves, often 6 inches long and 4½ inches broad, and almost white flowers shaded green, 1 inch wide, and crimson anthers, is a great favourite of mine. It is a pity the frost often damages this plant in March, both leaves and flowers, when it is at its best.

Another outstanding bergenia, this time a hybrid, is the cross between *B. beesiana* and *B. purpurascens* var. *delavayi* from Yunnan in China, it is called 'Ballawley Hybrid' or 'Delbees'; this plant received an R.H.S. award in 1955 and was raised by MR. SMITH-SHAW in Dublin. It flowers April to May, the colour is Fuchsia purple and the flowers are produced on tall freely branched scapes (Fig. 151).

I have raised a number of hybrids between these two outstanding plants, some have flowers 1⅜ inches in diameter on branched scapes 12–15 inches high and they come into flower from the middle of March onwards; the flowers vary in colour between Magenta (H.C.C. 27/2) and Fuchsine Pink (H.C.C. 627/1). They are vigorous plants but should be planted where they do not get the early morning sun, and if possible protected from late frosts. The leaves are intermediate between the parents.

In raising hybrid bergenia it will be found that they usually cross together very freely, in fact in my experience more seeds are obtained by crossing than if they are allowed to self-pollinate. The seed should be sown as soon as ripe and the seedlings will flower in the second year. If it is a question of choosing the best forms wait until the third year, when the plants will produce strong flowering scapes, before selecting.

B. beesiana × *B. ciliata* seedlings are a little frost-tender and vary in colour from Phlox Pink (H.C.C. 625/2) to Rose Pink (H.C.C. 427/3) these last plants being almost white, and the stems and calyx Garnet Brown (H.C.C. 00918/3) are very pleasing. The foliage also helps as it is a good dark green and somewhat hairy. The scapes are about 16 inches high.

Several new bergenia have been raised on the Continent, and are now becoming obtainable from the Nursery trade. B. 'Abendglut', 'Morgenröte' and 'Silberlicht' are three of these.

It would seem quite possible that what WILLIAM ROBINSON foresaw for bergenia in 1898 may well come to pass, especially having in mind the need for ground cover plants, and general labour saving in the

garden. Bergenia can be moved at almost any time of the year providing the soil is moist, and as cut flowers they last well in water. They will do fairly well under poor growing conditions in towns, and will stand some shade. The leaves of many are really ornamental. By growing a number of varieties they can be had in flower from March to June, and the more branched forms are especially pleasing as the individual flowers then show to advantage.

Derby. H. C. PUGSLEY

An Unusual Cistus

In 1957 an unusual form of *Cistus ladaniferus* was observed growing near Lisbon, Portugal, the flower petals being marked with crimson spots, in place of the normal dark reddish brown blotches. Some collected seed sent to MR. ELIOT HODGKIN was germinated and the seedlings were raised at Wisley. One of these seedlings, received by the writer in April 1958, flowered for the first time on June 7, 1960, and again in June 1961 with a six-petalled flower. The spots are a most distinctive colour which, when compared with the Colour Chart, is near "Carmine 21/1" or "Crimson 22/1". They are, however, slightly smaller than in the usual form.

In every other respect the plant resembles *C. ladaniferus* and there is no sign of any other parentage. It is, perhaps, on the small side, being only 2 feet 9 inches in height with flowers 3 inches in diameter, as against a normal height of about 5 feet, with flowers 3½ to 4 inches in diameter.

Six-petalled flowers are not uncommon with *C. ladaniferus* or its hybrid *C. cyprius*, and flowers with 7 petals are occasionally seen. It should perhaps be noted that not all the seedlings raised at Wisley bore flowers with crimson spots. In some cases the flowers were quite normal, with dark blotches.

Redhill, Surrey C. E. SEXTON

Blandfordia nobilis

A cluster of brilliant red and yellow bells poised on the top of a slender three-foot stem rising above stiff grass-like leaves—this is *Blandfordia nobilis* as I saw it growing outdoors in a local nursery last December (Fig. 150).

A native of New South Wales, where it grows in peat bogs and on shady mountain sides, it is not at all difficult to grow outdoors in mild parts of New Zealand but it is very rare because it does not multiply rapidly. Probably it could be raised in larger numbers from seed. Incidentally the seedpods have the typical Lily Family habit of raising themselves from the original hanging position until they point upwards.

The genus is named after George, Marquis of Blandford. In 1803 *B. nobilis* was introduced into England, the first of four species. There it is too tender for general cultivation outdoors though it might survive in Cornwall. Otherwise it must be grown in a greenhouse. Repotted in autumn, it should be watered only when the roots dry until growth begins, when the supply of water should be gradually increased.

New Plymouth,
New Zealand DOUGLAS ELLIOTT

WISLEY TRIALS, 1961

BORDER CARNATIONS

Fifty-seven varieties of border carnations were grown at Wisley during 1961. Five plants of each variety were planted on September 29, 1960.

The Joint Border Carnation and Picotee Committee inspected the trial on July 12, 1961, and on its recommendation The Royal Horticultural Society and The British National Carnation Society have made jointly the following awards to border carnations as varieties for the open border.

The number in brackets after the description of the variety was that under which it was grown in the trial.

ROYAL MAIL. (Raised by Mr. F. W. Goodfellow, introduced and sent by Messrs. F. W. Goodfellow (Nurseries) Ltd., Valley Nurseries, Aldridge, Staffs.) **F.C.C.** July 12, 1961. Plant vigorous with stout stems, 28 inches long. Flowers 2¾ inches diameter, freely produced, centre open, flattish, scent slight clove; petals broad, entire, Orient Red (H.C.C. 819/1) overlaid Signal Red (H.C.C. 719); calyx strong. Flowering from July 5, 1961 (**A.M.** 1954). [35]

SUSSEX JOY. (Raised, introduced and sent by Messrs. Allwood Bros. Ltd., Wivelsfield Nurseries, Haywards Heath, Sussex.) **F.C.C.** July 12, 1961. Plant vigorous with stout stems, 24 inches long. Flowers 2¾ inches diameter, freely produced, centre full, scent slight; petals broad, entire, Carmine Rose (H.C.C. 621) lightly flushed Scarlet (H.C.C. 19); calyx strong. Flowering from July 4, 1961 (**A.M.** 1959). [34]

MENDIP HUNTSMAN. (Raised, introduced and sent by Mr. S. J. Cook, Vistan, Victoria Grove, Shepton Mallet, Somerset.) **A.M.** July 12, 1961. Described R.H.S. JOURNAL, **85**, p. 131 (**H.C.** 1960). Flowering from July 6, 1961. [38]

CANDY. (Raised, introduced and sent by Messrs. Allwood Bros. Ltd.) **H.C.** July 12, 1961. Plant vigorous with stout stems, 17 inches long. Flowers 2 7/16 to 3 inches diameter, freely produced, centre fairly loose, no scent; petals fairly broad, frilled and finely serrated at margins, ground white finely striped Blood Red (H.C.C. 820/3); calyx strong. Flowering from June 29, 1961. [33]

FIREGLOW. (Raised, introduced and sent by Messrs Allwood Bros. Ltd.) **H.C.** July 12, 1961. Plant vigorous with fairly stout stems, 16 inches long. Flowers 3 inches diameter, freely produced, centre full, no scent; petals broad, entire, ground Peach (H.C.C. 512) heavily splashed and overlaid a colour near Orient Red (H.C.C. 819) on outer half of petal; calyx strong. Flowering from July 2, 1961. [23]

MERMAID. (Raised, introduced and sent by Messrs. Allwood Bros. Ltd.) **H.C.** July 12, 1961. Plant vigorous with stout stems, 22 inches long. Flowers

2¼ to 3 inches diameter, freely produced, centre loose, no scent; petals broad, entire, ground white striped and edged Peony Purple (H.C.C. 729/2) on outer half of petal; calyx fairly strong. Flowering from June 30, 1961. [6]

SUSSEX ECLIPSE. (Raised, introduced and sent by Messrs. Allwood Bros. Ltd.) **H.C.** July 12, 1961. Described R.H.S. JOURNAL, **84**, p. 31 (C.1958). Flowering from July 2, 1961. [28]

DELPHINIUMS

One hundred and one varieties of delphiniums were grown in the trial at Wisley during 1961. Three well-rooted cuttings of each variety were planted on June 10, 1960.

The trial was inspected on June 12 and 26, 1961, by the Joint Delphinium Committee, and on its recommendation The Royal Horticultural Society and The Delphinium Society has made the following awards to delphiniums as varieties for garden decoration, after trial at Wisley.

The number in brackets after the description of the variety was that under which it was grown in the trial.

Tall varieties of Delphinium elatum

BETTY HAY. (Raised, introduced and sent by Messrs. Blackmore & Langdon, Twerton Hill Nursery, Bath, Somerset.) **F.C.C.** June 26, 1961. Described R.H.S. JOURNAL, **84**, p. 34 (**A.M.** 1958). Flowering from June 15, 1961. [48]

CRISTELLA. (Raised, introduced and sent by Messrs. Blackmore & Langdon.) **F.C.C.** June 12, 1961. Described R.H.S. JOURNAL, **84**, p. 370, where the name is wrongly spelt as Christella (**A.M.** 1959). Flowering from May 22, 1961. [60]

DAILY EXPRESS. (Raised, introduced and sent by Mr. R. C. Parrett, Yew Cottage, Fairmile Lane, Cobham, Surrey.) **F.C.C.** June 12, 1961. Plant 5¾ feet tall; flower spike 3 feet long, slightly tapering, flowers closely spaced, few side spikes; flowers 3 inches diameter, semi-double, on fairly long stalk; sepals a clear bright blue near Butterfly Blue (H.C.C. between 645 and 645/1) with slight mauve flush; eye brownish grey with yellow hairs. Flowering from June 5, 1961 (**A.M.** 1955). [50]

JULIA LANGDON. (Raised, introduced and sent by Messrs. Blackmore & Langdon.) **F.C.C.** June 26, 1961. Plant 6¾ feet tall; flower spike 2½ to 2¾ feet long, blunt, flowers closely spaced, many side spikes; flower $3\frac{3}{16}$ inches diameter, semi-double, on fairly short stalk; outer sepals Butterfly Blue (H.C.C. 645/1) changing at margins to Cobalt Violet (H.C.C. between 634/2 and 634/3), inner sepals Cobalt Violet (H.C.C. between 634/2 and 634/3); eye white with yellow hairs. Flowering from June 17, 1961 (**A.M.** 1948). [38]

PURPLE TRIUMPH. (Raised, introduced and sent by Messrs. Blackmore & Langdon.) **F.C.C.** June 12, 1961. Described R.H.S. JOURNAL, **84**, p. 370 (**A.M.** 1959). Flowering from May 31, 1961. [95]

SEA MIST. (Raised, introduced and sent by Messrs. Blackmore & Langdon.) **F.C.C.** June 12, 1961. Described R.H.S. JOURNAL, **84**, p. 370 (**A.M.** 1960). Flowering from May 30, 1961. [34]

GREVILLE STEVENS. (Raised, introduced and sent by Messrs. Blackmore & Langdon.) **A.M.** June 26, 1961. Described R.H.S. JOURNAL, **85**, p. 495 (**H.C.** 1960). Flowering from June 11, 1961. [68]

ROYAL MARINE. (Raised, introduced and sent by Messrs. Blackmore

& Langdon.) **A.M.** June 26, 1961. Plant 8¾ feet tall; flower spike 3¼ to 3½ feet long, tapering, flowers fairly closely spaced, few side spikes; flower 3½ to 3½ inches diameter, semi-double, on long stalk; outer sepals Sea Blue (H.C.C. 043) changing to Spectrum Violet (H.C.C. 735/1) at margins and tips, inner sepals Spectrum Violet (H.C.C. 735/1), slightly lighter colour towards base; eye white with yellow hairs. Flowering from June 17, 1961. [89]

SHEENA. (Raised, introduced and sent by Messrs. Blackmore & Langdon.) **A.M.** June 26, 1961. Plant 7½ feet tall; flower spike 3 to 3½ feet long, slightly tapering, flowers closely spaced, many side spikes; flower 2½ inches diameter, semi-double, on long stalk; outer sepals Sea Blue (H.C.C. 043), inner sepals Spectrum Violet (H.C.C. 735/2); eye sepia striped violet with yellow hairs. Flowering from June 13, 1961. [44]

BASIL CLITHEROE. (Raised by the late Mr. Basil Clitheroe, introduced and sent by Mr. R. V. Roger, The Nurseries, Pickering, Yorkshire.) **H.C.** June 26, 1961. Plant 6 feet tall; flower spike 2 to 2½ feet long, tapering, flowers fairly closely spaced, many side spikes; flower 2½ to 3 inches diameter, semi-double, on fairly long stalk; outer sepals white with a very small green spot at centre of tips, inner sepals white; eye white with yellow hairs giving the appearance of cream when viewed from a distance. Flowering from June 8, 1961. [26]

SUNDAY EXPRESS. (Raised, introduced and sent by Mr. R. C. Parrett.) **H.C.** June 12, 1961. Plant 6 feet tall; flower spike 3 feet long, tapering, flowers fairly closely spaced, many side spikes; flower 2⅞ to 3 inches diameter, semi-double, on long stalk, sepals white; eye white with yellow hairs giving the appearance of cream when viewed from a distance. Flowering from June 1, 1961. [25]

Dwarf varieties of Delphinium elatum

BLUE TIT. (Raised, introduced and sent by Messrs. Blackmore & Langdon.) **F.C.C.** June 12, 1961. Described R.H.S. JOURNAL, **84**, p. 35 (**A.M.** 1959). Flowering from June 3, 1961. [11]

BEBE. (Raised, introduced and sent by Messrs. Blackmore & Langdon.) **A.M.** June 12, 1961. Described R.H.S. JOURNAL, **85**, p. 496 (**H.C.** 1960). Flowering from June 1, 1961. [1]

JESTER. (Raised, introduced and sent by Messrs. Blackmore & Langdon.) **A.M.** June 12, 1961. Described R.H.S. JOURNAL, **85**, p. 496 (**H.T.** 1960). Flowering from June 10, 1961. [7]

LITTLE DORRIT. (Raised, introduced and sent by Messrs. Blackmore & Langdon.) **A.M.** June 12, 1961. Plant 4¾ feet tall; flower spike 1¾ to 2 feet long, blunt, flowers fairly closely spaced, few side spikes; flower 2⅛ inches diameter, semi-double, on fairly long stalk; outer sepals a colour between French Blue (H.C.C. 43) and Sea Blue (H.C.C. 043), inner sepals near Sea Blue (H.C.C. 043) overlaid at tips and margins with Amethyst Violet (H.C.C. 35); eye sepia with yellow hairs. Flowering from June 1, 1961. [13]

PAGE BOY. (Raised, introduced and sent by Messrs. Blackmore & Langdon.) **A.M.** June 26, 1961. Plant 5 feet tall; flower spike 2 feet long, tapering, flowers closely spaced, many side spikes; flower 2 3/16 to 2¼ inches diameter, semi-double, on short stalk, sepals a colour near French Blue (H.C.C. 43) changing to Mineral Violet (H.C.C. 635/3) at base; eye white striped blue with yellow hairs. Flowering from June 12, 1961. [3]

PETER. (Raised, introduced and sent by Messrs. Blackmore & Langdon.) **H.C.** June 12, 1961. Plant 4 to 4½ feet tall; flower spike 2 to 2½ feet long, tapering, flowers closely spaced, many side spikes; flower 2 7/16 to 3 inches diameter, semi-double, on fairly long stalk; outer sepals Cobalt Blue (H.C.C.

44/1) flushed Mauve (H.C.C. 633/1) at margins, inner sepals French Blue (H.C.C. 43/1) striped at centre and flushed at margins with Mauve (H.C.C. 633/1); eye white streaked violet with blue spot. Flowering from June 5, 1961. [5]

PAEONIES

Seventy-two varieties of paeonies were grown in the trial during 1961. The trial was planted on a site near the Bowles Memorial Garden on October 15, 1957.

The trial was inspected by a sub-committee of the Floral Committee A on April 21, May 9 and 31, 1961, and on its recommendation the Council has made the following awards to paeonies as varieties for garden decoration, after trial at Wisley.

The number in brackets after the description of the variety was that under which it was grown in the trial.

RED DANDY. (Raised, introduced and sent by Mr. Edward Auten, Jnr., Princeville, Illinois, U.S.A.) **A.M.** May 31, 1961. Described R.H.S. JOURNAL, **85**, pp. 497 and 498 (**H.C.** 1960). Flowering from May 15, 1961. [31]

RED ENSIGN. (Raised, introduced and sent by Mr. Edward Auten, Jnr.) **A.M.** May 31, 1961. Described R.H.S. JOURNAL, **85**, p. 498 (**H.C.** 1960). Flowering from May 15, 1961. [37]

BOWL OF BEAUTY. (Raised by the late Andrianus Hoogendoorn, introduced and sent by Messrs. The Old Farm Nurseries, Boskoop, Holland.) **H.C.** May 31, 1961. Plant 30 inches high, vigorous, erect and compact habit; flower stems 36 to 39 inches long, stout and rigid; flowers 4½ inches diameter, semi-double, slightly scented; outer petals broad and entire, Mallow Purple (H.C.C. 630), inner petals very narrow and pointed, rich cream. Flowering from May 27, 1961. [30]

CHALICE. (Raised and introduced by the late Professor A. P. Saunders, and sent by Miss Sylvia Saunders, Clinton, New York, U.S.A.) **H.C.** April 21, 1961. Plant 26 inches high, vigorous, erect and compact habit; flower stems 29 to 30 inches long, fairly stout and rigid; flowers 7½ inches diameter, single, slightly scented; petals broad and entire, white, buds slightly tinged pink. Flowering from April 18, 1961. [43]

ROSE QUEEN. (Raised by Mr. R. V. Prichard, introduced and sent by Messrs. Maurice Prichard & Sons Ltd., Riverslea Nurseries, Christchurch, Hants.) **H.C.** May 31, 1961. Plant 32 inches high, vigorous, erect and compact habit; flower stems 38 to 42 inches long, slender and rigid; flowers 5 to 6½ inches diameter, single to semi-double; petals broad, Cyclamen Purple (H.C.C. 30/1) fading slightly towards edges, very conspicuous stamens, Lemon Yellow (H.C.C. 4). Flowering from May 27, 1961. [25]

RHODODENDRONS

On the recommendation of the Rhododendron and Camellia Committee, the Council has made the following awards to rhododendrons, after trial at Wisley.

The number in brackets after the description of the variety was that under which it was grown in the trial.

Hardy Hybrid Rhododendron

FURNIVALL'S DAUGHTER. (Raised, introduced and sent by Messrs. Knap Hill Nursery Ltd., Lower Knaphill, Woking, Surrey.) **F.C.C.**

May 5, 1961. Described R.H.S. JOURNAL, **82**, p. 445 (**A.M.** 1958). Flowering from April 21, 1961. [207]

Awards were also given to the following rhododendrons growing in The Royal Horticultural Society's collection of plants at Wisley.

Evergreen Rhododendrons

EL GRECO. (Raised at The Royal Horticultural Society's Gardens, Wisley, Ripley, Woking, Surrey.) **A.M.** May 5, 1961. Plant 5 feet high, 5¼ feet spread, vigorous, compact upright habit, very free-flowering; leaves 6½ inches long, 2½ inches wide, medium dull green. Flower truss 8 inches diameter, 4 inches deep, flat, ten flowers per truss; corolla 3½ inches diameter, 2½ inches long, funnel-shaped, margins entire and slightly crumpled, Saffron Yellow (H.C.C. 7/3) changing to Azalea Pink (H.C.C. 618/2) at margins with flush of Carmine Rose (H.C.C. 621/1).

DEGAS. (Raised at The Royal Horticultural Society's Gardens.) **H.C.** May 5, 1961. Plant 3 feet high, 4½ feet spread, vigorous, compact upright habit, very free-flowering; leaves 3½ inches long, 1½ inches wide, dark dull green. Flower truss 6 inches diameter, 3 inches deep, compact, flat, nine flowers per truss; corolla 2 7/16 to 2⅝ inches diameter, 2⅛ to 2½ inches long, campanulate-shaped, margins entire, Currant Red (H.C.C. 821), spotting on upper petals very dark red.

KOHL-RABI

Twenty-eight stocks of kohl-rabi were received for trial at Wisley in 1961. The trial was sown on April 21, 1961, in shallow drills spaced 18 inches apart. After germination, the seedlings were thinned to 9 inches apart in the rows.

The trial was inspected by a sub-committee of the Fruit and Vegetable Committee on July 6, 1961, and on its recommendation the Council has made the following awards to kohl-rabi.

The number in brackets after the description of the stock was that under which it was grown in the trial.

OCEAN. (Raised by Toedtli, Herrliberg, Switzerland, introduced and sent by Messrs. G. R. Vatter Seeds Ltd., Barenplatz 2, Berne, Switzerland.) **A.M.** July 6, 1961. Plant 12 inches high, fairly small, vigorous, compact and erect; leaves dull grey-green very slightly tinged with purple, stalks and veins purple. Tuberous stems 2¾ to 3 inches diameter, 2½ inches deep, flattened globe, purple heavily overlaid with greyish-blue bloom, flesh greenish white. Fit for use July 4. [22]

VIENNA BLUE IMPROVED. (Raised, introduced and sent by Messrs. J. E. Ohlsens Enke, 14 Linnesgade, Copenhagen, Denmark.) **A.M.** July 6, 1961. Plant 11 inches high, fairly small, vigorous, fairly compact, erect; leaves dull grey-green tinged with purple, stalks and veins purple. Tuberous stems 3 to 3½ inches diameter, 2½ to 3 inches deep, flattened globe, purple heavily overlaid with greyish-blue bloom, flesh greenish white. Fit for use July 4. [21]

VIENNA WHITE IMPROVED. (Raised, introduced and sent by Messrs. J. E. Ohlsens Enke.) **A.M.** July 6, 1961. Plant 12 inches high, fairly large, vigorous, spreading; leaves grey-green, stalks and veins very light green. Tuberous stems 3½ inches diameter, 3¼ inches deep, globular, greenish cream, flesh greenish white. Fit for use July 2. [6]

WIESMOOR WEISSER TREIB. (Raised by Nordwestdeutsche Kraftwerke, introduced and sent by Messrs. E. Benary Ltd., Hann-Munden, Germany.) **A.M.** July 6, 1961. Plant 6 to 7 inches high, small, vigorous, very

compact, erect; leaves medium dull green, stalks and veins very light green. Tuberous stems 3 inches diameter, 2 inches deep, flattened globe, greenish cream, flesh greenish white. Fit for use July 2. [8]

Highly Commended

The following stocks were Highly Commended. The senders' names are in brackets.

Early White Vienna Selected. Greenish cream. Fit for use July 2. (Messrs. J. L. Clucas Ltd.)

Prague White Improved. Greenish cream. Fit for use July 3. (Messrs. J. E. Ohlsens Enke.)

LETTUCES, SOWN UNDER GLASS IN OCTOBER AND TRANSPLANTED IN THE OPEN

Seventy-five stocks of lettuces were received for trial at Wisley in 1960. The trial was sown under Dutch lights on October 14, 1960, and the seedlings were pricked out 2 inches apart in continuous cold frames on November 8. Air was admitted on all possible occasions throughout the winter to encourage the production of sturdy plants. The trial was planted into the open ground on March 1, 1961, the plants being spaced 12 inches apart each way.

The trial was inspected by a sub-Committee of the Fruit and Vegetable Committee on May 10, 1961, and on its recommendation the Council has made the following awards to lettuces as varieties suitable for sowing under glass in October and transplanting into the open ground.

The number in brackets after the description of the stock was that under which it was grown in the trial.

Cabbage Type

CONSTANT HEART. (Raised, introduced and sent by Messrs. Samuel Dobie & Son Ltd., 11 Grosvenor Street, Chester.) **A.M.** May 10, 1961. Plant 6 inches high, 12 inches across, slightly spreading; leaves light to medium green, crumpled; heads hard, maturing evenly, fit to cut on May 8. [23]

KORONA. (Raised, introduced and sent by Messrs. A. Hansen, Kastrup, Amager, Denmark.) **A.M.** May 10, 1961. Plant 6 inches high, 13 inches across, slightly spreading; leaves light green, slightly blistered and crumpled; heads hard, maturing evenly, long standing, fit to cut on May 6. [13]

NIMBUS. (Raised, introduced and sent by Messrs. J. E. Ohlsens Enke, Copenhagen, Denmark.) **A.M.** May 10, 1961. Plant 5 inches high, 9 to 10 inches across, very compact; leaves light to medium green, slightly blistered and crumpled; heads hard, maturing early and very evenly, fit to cut on May 1. [62]

PRADO. (Raised, introduced and sent by Messrs. Sluis Brothers Ltd., Enkhuizen, Holland.) **A.M.** May 10, 1961. Plant 7 inches high, 12 inches across, slightly spreading; leaves medium green, slightly blistered and crumpled; heads hard, maturing evenly, fit to cut on May 8. [10]

TROCADERO GREEN IMPROVED. (Raised by Mr. A. A. Clucas, introduced and sent by Messrs. J. L. Clucas Ltd., Ormskirk, Lancashire.) **A.M.** May 10, 1961. Plant 6 inches high, 11 to 12 inches across, compact; leaves medium green, crumpled; heads hard, maturing evenly, fit to cut on May 7. [8]

Highly Commended

The following stocks were Highly Commended. The senders' names are in brackets.

Clause's Idea. Light to medium green. Fit to cut May 8. (Messrs. L. Clause S.A.)

Cluseed May Beauty. Light green. Fit to cut May 8. (Messrs. J. L. Clucas Ltd.)

Cluseed Spring Market. Light green. Fit to cut May 9. (Messrs. J. L. Clucas Ltd.)

Favourite Improved. Medium green. Fit to cut May 9. (Messrs. A. Hansen.)

Feltham King Improved. Medium green. Fit to cut May 8. (Messrs. Watkins & Simpson Ltd.)

Golden May. Light green. Fit to cut May 8. (Messrs. G. R. Vatter A.G.)

Grand Prix. Medium green. Fit to cut May 7. (Messrs. J. E. Ohlsens Enke.)

Greenfair. Medium green. Fit to cut May 7. (Messrs. J. E. Ohlsens Enke.)

Hilde. Light to medium green. Fit to cut May 9. (Messrs. Nunhem Seed Co.)

Patience Improved. Medium to dark green. Fit to cut May 9. (Messrs. Vilmorin-Andrieux S.A.)

Quick Heart. Medium green. Fit to cut May 8. (Messrs. H. J. Speed & Sons Ltd.)

Summer Summit. Medium green. Fit to cut May 8. (Messrs. L. Cause S.A.)

Sutton's Improved Unrivalled. Medium to dark green. Fit to cut May 8. (Messrs. Sutton & Sons Ltd.)

Tozer's Cobham Green. Dark green. Fit to cut May 7. (Messrs. A. L. Tozer Ltd.)

Westlandia Improved. Light green. Fit to cut May 8. (Messrs. Gebr. van den Berg N.V.)

PLANTS TO WHICH AWARDS HAVE BEEN MADE IN 1961

Acacia 'Exeter Hybrid' A.M. February 28, 1961, as a shrub for the cool greenhouse. This hybrid arose as a chance seedling in a pan of seed saved from *A. riceana* and was raised by Messrs. R. Veitch & Sons Ltd., of Exeter, during the 1920's. The spine-tipped phyllodes are linear in shape, up to 2 inches long and $\frac{1}{10}$ inch wide, and the freely produced globose heads of flowers are arranged in axillary spikes up to 2 inches long and are near to Empire Yellow (H.C.C. 603) in colour, Exhibited by L. M. Mason, Esq., V.M.H., Talbot Manor, Fincham. King's Lynn, Norfolk (Fig. 145).

Alstroemeria 'Ballerina' A.M. May 30, 1961. A striking advance in this genus raised in 1959 by MR. J. A. M. GOEMANS as the result of a cross between *A.* 'Parigo Hybrid' and *A. aurantiaca.* This hybrid is sterile but can be propagated vegetatively without much difficulty.

Some plants have been grown outside and have wintered without any protection but the flowers exhibited had been grown in a cool greenhouse from plants which were split up and planted in February 1961. Plants bloom very profusely and the flowers last a long time, even in hot weather The flowering stems about 2 feet 6 inches tall carry umbels of large flowers measuring 2¾ inches across and 3 inches long. The outer petals are palest Amaranth Rose (varying between H.C.C. 530/3 and 530/2) and the inner upper narrower pair are Chrome Yellow (H.C.C. 605) with numerous garnet brown streaks which also occur on the lower middle petal. A very useful plant for cutting. Shown by Messrs. Parigo Horticultural Co. Ltd., Spalding, Lincs.

Alstroemeria 'Parigo's Charm' A.M. June 13, 1961. This and the succeeding variety are like the one shown on May 30, 1961, the result of a cross between *A.* 'Parigo Hybrid' and *A. aurantiaca.* They appear to be sterile but can be increased vegetatively and the exhibited flowers were taken from split-up plants which were planted in February in a cool greenhouse. These Alstroemerias have considerable hybrid vigour, bloom profusely and the lasting qualities of the flowers are extremely good. The flowers are 2½ inches long, borne in large umbels supported on long strong stalks. The prevailing colour of A. 'Parigo's Charm' is Maize Yellow (varying between H.C.C. 607/2 and 607/1). The three narrower petals are chrome yellow streaked all over with garnet brown. Raised by Mr. J. A. M. Goemans and shown by Messrs. Parigo Horticultural Co. Ltd., Spalding.

Alstroemeria 'Parigo's Pride' A.M. June 13, 1961. The flowers are 2¼ inches long and 2¾ inches across when fully expanded. The carmine-red colour is very near Rose Opal (H.C.C. 022/1) and the upper narrower petals are chrome yellow with garnet brown streaks. Raised by Mr. J. A. M. Goemans and shown by Messrs. Parigo Horticultural Co. Ltd., Spalding.

Carduncellus rhaponticioides A.M. April 18, 1961. This handsome and unusual species was collected by MRS. LUKIN in the mid-Atlas Mountains at 5,000 feet. In the specimen exhibited there were two sessile flowering rosettes in a 6-inch pot, each rosette being nearly 6 inches across. The leaves were elliptic with a truncate base, the leaf blade being dull green, paler below, and the margin fringed with whitish hairs. The flattened petioles were maroon, the colour extending halfway up the centre of each leaf blade. Each leaf, including the petiole, was 2½ inches long and ¾ inch across. The solitary flower heads, in the centre of each rosette, measured 1¾ inches in diameter. The ray florets were Sea Lavender Violet (H.C.C. 637/2 to 637/3) in colour, the disc florets Campanula Violet (H.C.C. 37 to 37/1) and the anthers Indigo. Exhibited by The Director, R.H.S. Gardens, Wisley, Ripley, Woking, Surrey.

Fritillaria pyrenaica var. lutea A.M. April 25, 1961. This is the yellowish form of a Pyrenean species, the typical form of which received an Award of Merit in 1955. In the pan exhibited there were seven flowering stems, each bearing a single flower, 1¼ inches long and

1¼ inches wide. The translucent flowers were Uranium Green in colour (H.C.C. 63/2 shading to 63/3), pencilled with darker green lines, the nectaries being dark green. The leaves were glaucous, as in the typical form. Exhibited by R. B. Cooke, Esq., V.M.H., Kilbryde, Corbridge, Northumberland.

Jankaea heldreichii A.M. May 13, 1961. Two large tufa boulders, each bearing about a hundred plants of this choice and rare alpine, were exhibited. Resembling a *Ramonda*, but with leaves densely felted with white down above and pale brown beneath, it is a native of Mount Olympus, in Thessaly. The purple, pubescent flower stems, 2 to 3 inches high, each bore from one to three flowers, Campanula Violet (H.C.C. 37/1) in colour. Some of the plants were specimens collected in 1951 and 1957; the remainder had grown from seed. At times the boulders were watered liberally, using an ordinary watering can with rose—this seemed to be quite contrary to the advice given in books, but evidently was the right treatment, judging by the very fine result. See R.H.S. JOURNAL, Vol. LXXXVI, pt. 9 (Sept. 1961), pp. 401–2. Exhibited by Mrs. M. A. Brough, 5 Thorn Grove, Bishop's Stortford, Herts.

Juniperus communis echiniformis A.M. April 18, 1961. This is said to be one of the rarest and most slow-growing of all Junipers. The specimen exhibited measured 12 inches across and 6 inches high, forming an irregular compact hemisphere. The shoots, at the end of the woody branches, were densely clothed with dark green acicular leaves, the longest being ¼ inch long. The maximum annual growth is said to be half an inch. Exhibited by T. S. Perry, Esq., 107 Vibart Road, Birmingham 26.

Primula normaniana A.M. April 25, 1961. A member of the Section *Cortusoides*, this handsome species was first discovered and introduced to this country by KINGDON-WARD. Its range extends from Assam to S.E. Tibet, where it is a woodland plant, often growing on damp shady banks beside streams, at an altitude of between 6,700 and 12,000 feet. Three plants were shown in a 9-inch pan. There were about thirty flowering stems, the height of which varied from 2 to 8½ inches. Each head consisted of from two to fourteen flowers, Mauve (H.C.C. 633/2) in colour, fading to H.C.C. 633/3. The base of the petals, at the mouth of the tube, was flushed with terra-cotta. The leaves of this species resemble those of a *Geranium*, being orbicular, deeply cordate at the base and palmately cut into 7–9 lobes. The vaginate petioles are very broad towards the base, where they were tinged with red on the plant submitted. Exhibited by R. B. Cooke, Esq., V.M.H., Kilbryde, Corbridge, Northumberland.

Rose 'Iceberg' A.M. July 11, 1961. This very attractive floribunda variety raised by Herr Wilhelm Kordes in Germany is the result of a cross between 'Robin Hood' and 'Virgo'. The growth is vigorous with ample medium green foliage. Its abundant fragrant white flowers measure 3 inches across when fully open. It flowers over a long period and is regarded as the best white rose in its section. Shown by Mr. S. M. Gault, New Lodge, Regent's Park, London, N.W.1. (Fig. 146).

FELLOWS WISHING TO OBTAIN PLANTS RARE IN CULTIVATION

Will any Fellow who is willing to offer one of these plants please communicate direct with the Fellow who is seeking it and not with the Editor.

Veronica pulvinaris *Helichrysum pichleri*	Mrs. Sheila Maule, Hannahfield Quarry House, Balerno, Midlothian.
Seed of *Amarylidaceae*, particularly of American and Eastern Asian species for exchange	Gordon McNeil, Dindinnie, P.O. Ofcolaco, N. Tol., S. Africa.
Seed of *Borago officinalis*	J. C. Potter, Pine View, Old Rectory Lane, Alvechurch, Worcs.
Echeveria heerii	C. B. Powell, Southbank, Kingsteignton Road, Newton Abbot, Devon.
Sophrocattleya Wellesleyae 'Westonbirt Variety'	Hugo Freed, 5731 So. Bonsall Dr., Malibu, California, U.S.A.
Chrysanthemum ameliae " atlanticum " gayanum " hispanicum " makinoi " shimotomaii	A. L. Baxter, 2 Barnhill Cottages, Barnhill Road, Wembley Park, Middlesex.
Hemerocallis 'Lady Fermor Hesketh'	G. S. Thomas, The National Trust, Briar Cottage, West End, Woking, Surrey.

BOOK NOTES

"The Oxford Book of Wild Flowers." By S. Ary and M. Gregory. Illustrated by E. B. Nicholson. Small Cr. 4to. 232 pp. (Oxford University Press.) 30*s*.

There are already many books on wild flowers, but as a book for the amateur and beginner the *Oxford Book of Wild Flowers* succeeds in achieving its object.

The authors have put a great deal of work into this book. It contains over 500 illustrations in colour, augmented by some excellent line drawings and diagrams, a very simple text with additional chapters on flower families, the naming, classification and ecology of plants all written in clear language and easy to assimilate.

The arrangement of flowers by colours is an admirable way of commencing identification, so long as the colours are accurate. Unfortunately, however, the printing particularly of the purples, blues and some yellows is in many cases not entirely satisfactory. As one turns the pages plate after plate seem to be of the same shade so that many flowers are not recognizable at a glance; for instance the Common Speedwell should be a pale mauve, not light blue; the Lesser Periwinkle has, here, the colour of a rare variety; the Marsh Violet is shown as pink instead of mauve and there are many other similar colour inaccuracies. In some cases the plates also appear blurred but this is not the fault of the illustrator who has produced some excellent and clear drawings, only losing a few morphological characters which is inevitable when several plants are shown on the same plate.

On the whole, however, this is an attractively got-up book, well calculated to stimulate the interest of the layman in wild flowers, and likely to provide a useful introduction to the subject.

M. McCALLUM-WEBSTER

"The Rock Gardener's Bedside Book." Small Cr. 8vo. pp. 156. (Alpine Garden Society, Rochester Row, London, S.W.1.) 5s.

This little book is compiled from the many issues of the Bulletin of the Alpine Garden Society "for those who love the plants of the hills" to use the words of the title page. It is a wholly delightful little book of excerpts, sometimes just a paragraph, at other times a page or two, but always chosen with skill, bringing back vividly to us our pleasure in many alpine trips. There are also numerous hints, sometimes controversial—which is all to the good—for growing and for placing some of the more temperamental and difficult of the alpine plants, as well as for the construction of rock gardens. As a small Christmas present for anyone who loves the mountains and the plants thereof it is ideal. I have found much enjoyment in it.

PATRICK M. SYNGE

"The Orchard and Fruit Garden. A new Pomona of hardy and sub-tropical fruits." Edited by Edward Hyams and A. A. Jackson. 208 pp. Illus. (Longmans.) 10 gns.

This handsome book is full of surprises and disappointments. The editors say that consistency of treatment of the various subjects was deliberately sacrificed, which is regrettable, as this is probably the book's chief fault. There are some excellent essays, notably on the origin of cultivated fruits, on the strawberry and on fruit plants and soil, to mention only a few, and an historical survey of fruit growing in Great Britain. Then there are first-class practical articles on the pear, cherry and plum which either the commercial grower or the amateur would find most useful, while the articles on the raspberry, gooseberry and currant are aimed at the amateur.

Perhaps the greatest disappointment is the chapter on the apple. The editors excuse its scanty treatment by saying that its cultivation is too well known, a statement with which no-one familiar with the amount of research now being applied to the apple would agree. Such a wealth of knowledge could have been imparted here but our most popular fruit is dismissed with a list of varieties arranged alphabetically, with fruit descriptions but with no attempt to differentiate, for example, between varieties for the connoisseur and for the market. There is no mention of rootstocks, planting methods and so on.

There are omissions which it is difficult to understand. The importance of compatibility in pollination is briefly mentioned here and there but surely it should have had a chapter to itself. And what of manuring, which is just as important as pruning? Virus diseases are mentioned in the chapter on propagation but as the planting of healthy material is of the utmost importance, this subject really deserves a chapter to itself.

The chapters dealing with more unusual or exotic fruits such as the fig, medlar, lemon and banana and the articles on fruit growing in Canada and Australia are most interesting. An extremely valuable asset is the bibliography of books published in English on fruit growing which will prove an excellent work of reference.

This book is very well presented, with a large number of really handsome coloured plates, the value of which is somewhat reduced by the fact that by no means all of them could be called typical of the varieties they are supposed to represent. There is at least one outright mistake; the picture captioned "Coe's Golden Drop" appears to represent one of the Transparents. There are several illustrations of varieties that are not even mentioned in the text, and at least one illustration refers the reader to a chapter in which some of the varieties concerned are not mentioned. There are also mistakes in nomenclature and spelling. It is unfortunate that this otherwise well-produced book should be marred by such mistakes and it is to be hoped that they will be put right in the next edition. At ten guineas this is obviously more a book for the dilettante than for the expert.

J. M. S. POTTER

"Cacti." By Walter Kupper and Pia Roshardt. Translated and edited by Vera Higgins. Illus. 4to. 128 pp. (Nelson, 1960.) 42s.

Professor Kupper's *Das Kakteenbuch*, published in Berlin in 1928, set a standard for both colour and black-and-white photographic illustrations of cacti, in which it still compares favourably with many of the books today. In 1954 the author brought out a new work in Dutch, French and German editions, this time illustrated by 60 plates

from paintings by Mrs. Pia Roshardt. The exquisite detail and fine colour rendering of these plates again made history, and only the lack of an English text deterred some from buying. Now an English edition has appeared in translation by Mrs. Vera Higgins, using the same plates but printed direct on the page instead of tipped in, and reproduced a shade darker than previously. This has given greater depth and body in most cases: compare, for instance, the brilliant rendering of Plate 47 (*Neolloydia knuthiana* and *Mammillaria microhelia*) with the rather anaemic 1954 version. In all, 93 cacti are figured and a useful descriptive paragraph of each given on the facing page.

The lightweight text will, perhaps, be secondary to most who buy the book for its superb plates, but nevertheless it contains much interesting reading so smoothly presented that one is hardly ever conscious of its being a translation (but *Tephrocactus* was not named after Darwin, p. 20!). Separate essays cover Habitat and Distribution, Cacti as Pests, The Uses of Cacti, Environment and Plant Forms, The Spines, The Flowers and Fruits, Seeds and Vegetative Propagation. There is no index or attempt to duplicate the many reference volumes on cultivation already available. One slip has escaped notice: the statement on p. 14 that "Since I do not wish to burden the ordinary reader with . . . innumerable new Latin names I have, wherever possible, used the better-known term for the earlier, collective genera, but where I thought it necessary I have added the new names in brackets" does not apply to the plates, where the newer name comes first and the older synonym afterwards.

This book would be good value at two or three times its present price: at two guineas it represents an outstanding bargain.

G. D. ROWLEY

"Die Cactaceae", Vol. V. By Curt Backeberg. 914 pp. Illus. (Gustav Fischer, Jena.) DM 107.

The fifth volume of this Monograph on the *Cactaceae* completes the survey of the family. This is the largest of the five volumes and contains, among the 53 genera included, a number with which amateur collectors are familiar, such as *Echinocactus*, *Astrophytum*, *Leuchtenbergia*, *Ferocactus*, *Lophophora*, *Coryphantha* and the very popular genus *Mammillaria*, here spelt *Mamillaria* with is not in conformity with the International Code. In this genus alone 301 species with 103 varieties are described and several pages are devoted to lists of Mammillarias which are known by name only or whose names are uncertain in their application. The amount of information given will be invaluable to future workers in this field whether the groups into which the family is divided are accepted or not. The 700 illustrations are of high standard; indeed, the large number of photographs, both in monochrone and colour, that the monograph contains will greatly assist in the identification of the species and varieties described. The sixth volume will contain the Index, which is essential for a work of this size and complexity, and also any additions and corrections required.

VERA HIGGINS

"The Iris Year Book." 151 pp. Illus. (The British Iris Society.) Price to non-fellows 12*s*. 6*d*., obtainable from R. Usher, 78, Wilmot Way, Banstead, Surrey.

This is a pleasant and useful issue. Articles such as those on pink, blue, and black and white varieties by experts like H. Castle Fletcher former President of the Society, Hugh F. R. Miller the President, and H. J. Randall a Vice-President, respectively cannot but help the would-be grower who is so often bewildered by new varieties which appear year after year. Articles such as that on "Irises at the Royal Botanic Gardens, Kew" and that on "Seen at the Shows" are also of assistance and interest. Dr. Peter Werkmeister deals with "Sterility, Chromosome Conjugation, Amphiploidy and their importance for Iris breeding" in an article which should be of much assistance to breeders. For the lover of species Zvi Gazit-Ginsburg contributes an important article on Oncocyclus irises in Israel and there are excellent photographs by Mr. J. E. Downward of the rare *Iris taitii* and of a group of species of the Xipheum type, all collected by Sir Cedric Morris in Portugal. On the whole the layout of this Year Book is good as are the black and white illustrations.

J. W. O. PLATT

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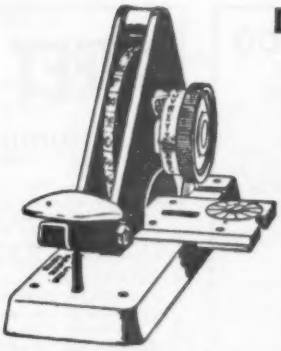

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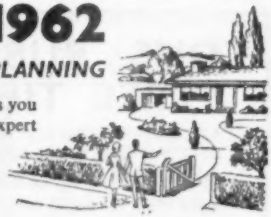

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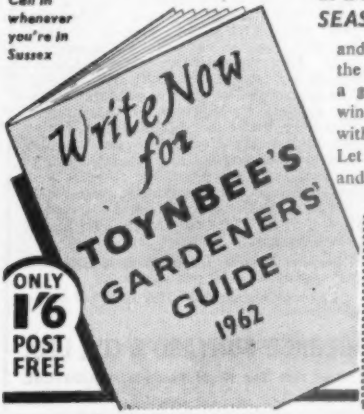

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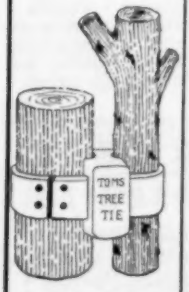

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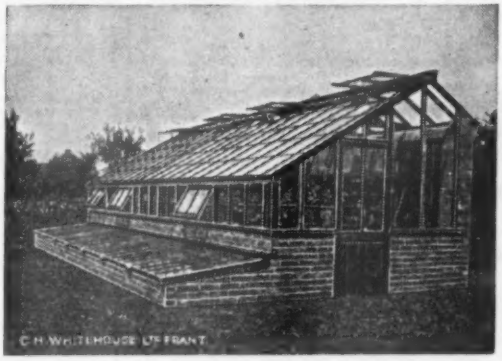

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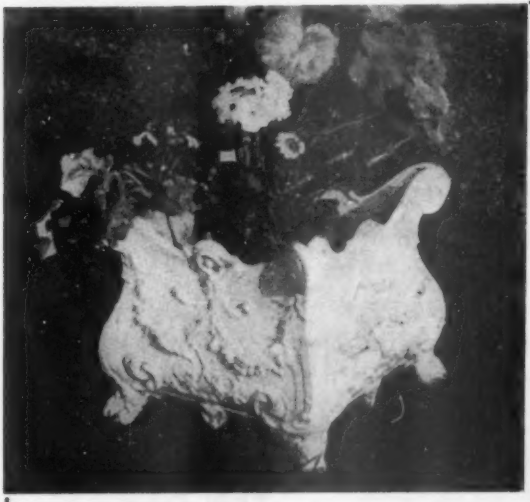

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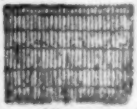

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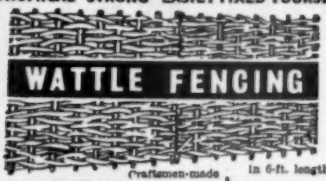

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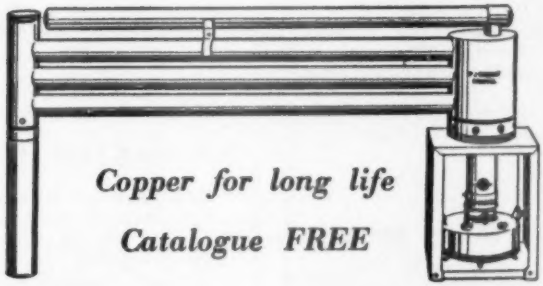

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THE 1962 YEAR BOOKS

DAFFODIL AND TULIP

This volume is dedicated to Mr. Herbert Barr, whose family has long been associated with Daffodils. It contains articles by many of the leading growers of Daffodils, notably that of Mr. David Lloyd on those raised by Mr. Lionel Richardson, who is celebrating his fiftieth anniversary as a hybridizer. New Garden Tulips in Holland are described by Mr. Bram Warnaar, while there are two articles on Species. There are articles by prominent authorities on the technical side of both Daffodil and Tulip cultivation. A feature in this issue is the comprehensive Ten Year Index to previous volumes. Show reports from all over the world are again included, as is a list of Newly Registered Daffodils. The book is well illustrated.

Just published

LILY

This issue is dedicated to Dr. W. B. Turrill, whose knowledge and interest in Lilies and Fritillaries is so well known. Well-known British lily growers such as Sir Frederick Stern, Col. J. Leslie and Major Knox Finlay have contributed articles of much interest, while Mr. Edgar Kline and Mr. Earl Hornback have sent contributions from America, and Dr. R. M. Withers and Mr. J. M. Piesse from Australia. A feature of this issue is the wide number of genera related to *Lilium*, including *Colchicum*, *Chionodoxa*, *Scilla* and *Trillium*, which are also discussed. The book has three pages of colour plates and a number of black-and-white illustrations.

Publication November

RHODODENDRON AND CAMELLIA

In this issue two well-known gardens are described, Lochinch in Scotland and Sandling Park in Kent. Dr. H. R. Fletcher of Edinburgh has contributed an interesting and provocative article on the Rating of Merit of Rhododendron Species. There are articles on Rhododendron Species as well as a description of two new species, and one on Hardy Hybrid Rhododendrons. The Resoiling of the Temperate House at Kew is described. Once again Mr. Charles Puddle and Mr. Francis Hanger have combined to produce their helpful Description and History of A Further Eighteen Popular *Camellia japonica* Varieties. There are full reports on Shows in this country and the U.S.A. and a notice of the late Dr. J. MacQueen Cowan. The book is fully illustrated and contains a fine colour plate of *Rhododendron campylocarpum*.

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